

CHANGING LIQUIDITY PATTERNS
IN THE AMERICAN BANKING SYSTEM

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INTRODUCTION

Introduction

During the first few years of this decade (the 1960's) a number of significant changes occurred in the American Commercial Banking Industry. In the first half of 1961 several large money-market commercial banks in New York City began to issue negotiable time certificates of deposit (CDs).¹ This was a radical departure from past banking practice, which emphasized asset management and assumed that the composition of bank liabilities was more or less beyond the control of individual banks. The change was accepted, however, both by the regulatory authorities and by the banking community as a whole, and the practice of issuing CDs spread rapidly. The total volume of CDs outstanding rose steadily from almost zero in early 1961 to more than \$19,000,000,000 in June of 1968, and represented an important source of funds for the banking system during this period.

Another significant change occurred in December of 1962 when the Comptroller of the Currency approved the issuance of capital notes and debentures by commercial banks which could be included in their

capital accounts, as long as such notes were subordinated to deposits. Commercial banks were quick to take advantage of this, and sold more than \$1,500,000,000 worth of these securities during the following three years. This represented 47% of the increase in new capital funds raised by the banking system during this period.²

The decade of the 1960's also brought changes in the composition of commercial bank assets. Between 1961 and 1966 commercial bank holdings of U.S. Government securities decreased by about 17%, while loans increased by 79% and holdings of other securities (mainly municipal securities) increased by 114%. The decline in the holdings of U.S. Government securities occurred at a time when the money supply (currency and demand deposits) was growing at an annual rate of 4%, which included a 20% increase in total demand deposits. Over the same period -- 1961 to 1966 -- time deposits increased by 95%. Thus, according to traditional measures, there was a significant decline in commercial bank liquidity during this period. The loan to deposit ratio rose from .52 in August of 1961 to .67 in August of 1966, while the ratio of cash and government securities to total assets declined from .42 to .29 over the same period.

Many of these changes were the natural result of increased competition in the banking industry, both among individual commercial banks and between commercial banks and other financial institutions. It has been necessary for commercial banks to aggressively seek new sources of liability funds and invest them even more aggressively to simply maintain their competitive position with non-bank financial institutions. However, these changes did result in a substantial drop in commercial bank liquidity if such liquidity is measured by the amount of "liquid" assets held relative to total assets. By the end of 1968 commercial bank holdings of U.S. Government securities had fallen below 14% of total assets. This compared with a percentage in excess of 35% in 1954.³

This suggests that perhaps commercial banks did not need to hold so many liquid assets in the first place -- that perhaps commercial banks meet their liquidity needs in ways other than relying on secondary reserves. Perhaps commercial banks maintain a certain level of secondary reserves (liquid assets) because it is the "traditional" and "conservative" thing to do. Perhaps the regulatory authorities "encourage" commercial banks to maintain a certain "average" or

"normal" level of liquid assets to conform to "sound banking practice." Since the existence of the Federal Deposit Insurance Corporation and the increased knowledge and sophistication of the banking authorities have almost eliminated the possibility of widespread bank failure because of a liquidity crisis, this would mean that banks tend to hold an excessive amount of liquid assets which are not needed to meet the reasonable demands made on a bank. This is the hypothesis of this paper.

Hypothesis: Commercial banks in the United States, because of unnecessarily conservative banking practices and overstrict supervision, tend to maintain an excessive amount of their assets in a highly liquid form (the secondary reserve) at the sacrifice of additional income. Furthermore, the secondary reserves of most commercial banks are not related to the true liquidity needs of these banks as the sizes of most bank's secondary reserves are determined by an informal, system-wide standard -- the industry average.

Purpose, Method, Scope

The purpose of this study is to examine the banking literature, the banking industry as a whole,

and a sample of commercial banks to determine whether or not commercial banks actually decide what their own liquidity needs are and if they maintain their secondary reserves in accordance with their needs. This study will for the most part be a logical presentation based on statistical analysis, existing laws, and professional opinion.

This paper is divided into four major parts or chapters. The first chapter is concerned with the theoretical justification for the maintenance of a secondary reserve in a commercial bank. An attempt is made to determine what a secondary reserve is, what its functions are, how its size is determined, and what the sources of a bank's liquidity are.

In Chapter II the industry trends in bank assets and liabilities since 1953 are examined. Special attention is given to the changes that occurred after 1960. In particular, the time certificate of deposit and the subordinated debenture are examined, and an attempt is made to determine their role in today's banking system. The theory of liabilities management (as a replacement for the secondary reserve) is analyzed, and its weak points, as well as its strong points, are pointed out.

In Chapter III the assets of a sample of 115 state banks chartered in Florida will be examined. The analysis will attempt to show whether or not commercial banks tend to maintain their secondary reserves close to the industry average or at some minimum level, whether secondary reserves fluctuate or remain fairly steady, and whether the size of a bank affects secondary reserve policy. An attempt is also made to bring out the differences and similarities between the secondary reserve policies of the different banks.

The conclusions that can be drawn from an analysis of this sample must necessarily be limited because of the nature and time span of the sample (as explained in Chapter III). Nevertheless, the sample is sufficient to provide for some meaningful conclusions, which can be found in Chapter IV.

It is hoped that this study will shed some light on how commercial banks actually determine their policies in regard to liquidity, and how these policies are affected by traditional thought, regulatory supervision, and changes in competition. In discussing liquidity this paper is primarily concerned with the liquidity of individual banks as opposed to the liquidity of the system as a whole. Although both

types of liquidity are closely related, and one type cannot really be discussed without at least implicit consideration of the other, each type calls for a different method of analysis. For example, an individual bank may increase its secondary reserves by purchasing short-term U.S. Government securities from another bank, and the liquidity of the system does not change. In the same light, the liquidity of the system may increase through Federal Reserve action while some banks lose secondary reserves because of local considerations. This paper will emphasize the liquidity of individual banks.

This study may be quite useful to the managers of some banks (especially small banks) in evaluating their policies and practices against the policies and practices of the sample banks in this paper. The regulatory authorities may also find this work of some small use in formulating future policies. In any case, it is hoped that this thesis will help other students of money and banking more clearly understand the forces that shaped commercial bank policies during the decade of the 1960's.

Notes

1. W. H. Baughn and C. E. Walker, The Bankers' Handbook (Homewood, Illinois: Dow Jones-Irwin, Inc., 1966), 610.

2. G. Walter Woodworth, "Bank Liquidity Management: Theories and Techniques," The Bankers Magazine, 150, No. 4 (Autumn, 1967), 76.

3. Table 1 in Chapter II.

CHAPTER I

THE SECONDARY RESERVE IN THEORY

Definition of Secondary Reserve

The phrase "secondary reserve" is somewhat of a loose term in the American Banking Industry. Bankers differ widely in their opinions as to exactly what a "secondary reserve" consists of. The term cannot be found in any of the various bank acts, and it apparently does not have any official status.

A study of the history of American Banking indicates that secondary reserve accounts of commercial banks in most cases "just grew."¹ Funds that were not needed by commercial banks for loans and discounts became available at certain times and were invested in short-term liquid assets such as commercial paper and Treasury Bills. The purpose of these acquisitions was to have on hand a number of assets that could be sold quickly when the demand for loans increased.

Paul M. Atkins summed up the bankers' motives in The Bankers Magazine of August, 1930, in the following way:

The principal attention of the banker when buying these "secondary reserve assets" was not focused on the organization of a secondary reserve, but rather on the selection of assets which were safe and which could be sold or disposed of in some other

way at his own discretion. His eye was on the credit position of these assets, and he was interested in whether they would pass the inspection of the bank examiner rather than on their adaptability to meet the needs of a secondary reserve.²

Thus, the term "secondary reserve" is not subject to a precise definition, as it has never been legally defined. Of course that does not mean that every banker has a different opinion as to what a secondary reserve is. On the contrary, there is a fairly uniform consensus of opinion as to what a secondary reserve is. There is, however, as will be brought out later in this thesis, some difference of opinion as to what assets should be included in the secondary reserve.

Textbooks dealing with commercial banking will almost always have a section or two dealing with secondary reserves, although in many cases the author will avoid trying to define the term "secondary reserves" directly. They generally prefer to describe which type of assets might be included in a secondary reserve and why there is a need for such a reserve. Where a definition can be found the language used is usually of a general, unspecific nature. In 1938, for example, the Bank Management Commission of the American Bankers Association issued a Statement of Principles and

Standards of Investments for Commercial Banks in which it defined secondary reserves in the following way:

Secondary reserves consist of short-term, readily marketable investments which normally may be converted into cash through sale without material loss. They ordinarily include bankers' acceptances, treasury bills and other short-term Governments, prime commercial paper, and other short securities of the highest quality and broad marketability.³

Other definitions emphasize the use to which a secondary reserve should be put -- that is, as a potential source of cash to replenish the primary reserve when that reserve declines for some reason. J. H. Wilkinson, Jr., for example, defined a secondary reserve in this way:

The secondary reserve can be defined as the first line of defense which will be employed to replenish the primary reserve whenever that reserve needs to be replenished because of withdrawals of deposits or an increase in loan demand. If, then, the outstanding characteristic of the secondary reserve is that it be available for transition into primary reserve without other than an inconsequential loss, it logically follows that only prime securities with short maturities -- not more than four years ^E -- are eligible for such an account.

These two definitions, by reason of their length, are probably the exception rather than the rule. Some

authors define secondary reserves in a sentence or less and move on to other matters. A typical definition would be: "By 'secondary' reserves are meant highly liquid earning assets that may be converted into cash with little or no delay and at practically no loss."⁵ Other authors, although they may deal with secondary reserves at length, offer no direct definition of the term.⁶ The most meaningful "definition" which this author found was in a monograph prepared by the American Bankers Association for the Commission on Money and Credit. In this book also no "direct" definition is offered, but the authors are able to define "secondary reserves" quite adequately using an indirect method. They state:

Since a bank's cash assets can be counted only to a very limited extent among liquidity assets [primary reserves must be maintained at a minimum level], a secondary reserve of short-term, readily marketable, high quality assets must be maintained. This provides the bank with its real source of liquidity. The secondary reserve is used in an accordionlike fashion, expanding to take up the slack when deposits increase faster than lending opportunities and contracting as necessary to meet deposit withdrawals or loan increases.⁷

The authors go on to explain what they mean by "short-term, readily marketable, high quality assets," and what assets

can be included in this category. They say that any U.S. Government bonds with maturities of up to five years can be included in this category, but any other assets, regardless of quality, should mature within a maximum of two years to be eligible. "Other" assets eligible to be counted as part of the secondary reserve would ordinarily include money market loans, Federal Funds sold, Government securities bought under repurchase agreements with Government security dealers and other banks, bankers' acceptances held, call loans to security brokers and dealers, and open-market commercial paper.⁸ At this point it is sufficient for our purposes to say that a secondary reserve consists of short-term, readily marketable, high quality assets.

Functions of the Secondary Reserve

There is some differences of opinion among students of money and banking as to what functions a secondary reserve serves in a commercial bank. However, almost all agree on at least two of the functions of a secondary reserve. The first of these functions is to provide a bank with a source of funds with which to meet deposit drains. The second function is to provide for funds with which

to meet increased loan demand. These two functions will be considered together as they are closely related and are at the core of the rationale for the maintenance of a secondary reserve of highly-liquid assets. Thus, according to The Bankers Handbook:

In the use of funds supplied to the bank, the changing volume of deposits coupled with the nature of the community's credit needs produces basically four functional asset categories; (1) cash, (2) liquidity reserves, (3) customer loans, and (4) residual investments. ...

The liquidity reserve category is made up of a wide range of income producing assets where [the] primary function is to provide the bank with a source of funds, through conversion of these assets, to meet deposit drains or loan demand. This is the immediate source of liquidity for the bank in its normal banking operation.⁹

These same sentiments, in one form or another, can be found expressed in almost any text that deals with secondary reserves (or "liquidity" reserves) to any extent. James S. Duesenberry, although he devotes only one chapter to commercial bank operations in Money and Credit: Impact and Control, mentions that most banks try to prepare for deposit withdrawals by investing in securities which can be readily sold with no risk of loss, such as short-term Government

bonds.¹⁰ Another author says that it is clear that a bank should carry enough liquid assets to meet the "seasonal demands of depositors," which can be forecast from experience, as well as to meet the "cyclical variations in deposits," taking measures to increase liquidity during times of prosperity.¹¹

These two functions of a secondary reserve are clearly identified in a text prepared by the American Bankers Association for the Commission on Money and Credit entitled The Commercial Banking Industry.¹² The text points out that the greater part of commercial bank liabilities by far is in the form of demand deposits, and thus adequate liquidity is required to meet anticipated withdrawals of these deposits and to provide a margin of safety for the unforeseeable. Adequate liquidity is also needed to satisfy the legitimate credit needs of its customers and to provide portfolio flexibility should a rise in interest rates make available attractive investment opportunities. "The part of the bank's investment portfolio that constitutes its secondary reserve (liquidity account) is the prime source of such liquidity."¹³

Roland I. Robinson, in The Management of Bank Funds, discusses these two basic reasons for protective

liquidity in some detail.¹⁴ He holds that there are two great reasons for the protective liquidity of commercial banks. First of all, banks must meet their legal obligation to convert demand deposits into currency on demand without fail. Secondly, although there is no legal responsibility to do so, any bank which wants to enjoy good profits, to perform its expected function in the community, and to attract customers must be prepared to meet all legitimate loan demands. He states: "There are two ways in which a bank can prepare for these needs: by holding cash and by having investments which can be converted into cash quickly, in sizable amounts and with negligible loss."¹⁵ Each individual banker, of course, is interested in the circumstances that cause deposit variations. The principal factors involved are changes in the aggregate of bank loans and investments and changes among individual banks in the distribution of deposits. These variations are of several kinds, which Robinson lists in the following way:

1. Business fluctuations, which cause the demand for bank loans to go up or down. This, in turn, affects the level of deposits.
2. Seasonal variations in the demand for bank credit and for currency to put into circulation cause bank deposits to fluctuate.

3. Relative population changes among areas -- some parts of the country grow rapidly, others hardly at all.

4. Competitive shifts in which some banks grow at the expense of others.

5. Changes due to shifts in the relative prosperity of various depositors; for example, when there is farm prosperity, agricultural banks gain deposits more rapidly than do other types of banks.¹⁶

The author points out that seasonal movements of both loans and deposits can be fairly well anticipated as to when they will occur and approximately how large they will be. However, there are some deposit movements which cannot be accounted for -- random movements. The banker must take these movements into account as well: "Recognition of random movement is, perhaps, a sort of clumsy effort at preparing for the unknown future. It is a guard against the unexpected; ..." ¹⁷

Besides seasonal and random factors, the individual bank should provide for some protection against the movement of what might be called "unstable" accounts. An example of this type of deposit might be amounts "due to banks." Also, "public funds" may also be highly variable, as their placement depends on who holds political power at the time. The accounts of "uninvested trust funds," "investment trusts," and "rich investors" may also be subject to wide variation.

And of course, the "big" account in the "little" bank presents another illustration. A bank should always be prepared to lose its biggest single account.

"While every bank has reason to welcome deposit accounts and particularly the big ones, the small banker should never make himself slavishly beholden to one big account."¹⁸

In the establishment of a secondary reserve, it is important that a distinction be made between the demand and time deposits of a bank. Demand deposits are payable at sight whenever they are demanded during the regular banking hours. Time deposits, on the other hand, are payable only on some specified future date or after the lapse of a determined length of time, upon notice. At the same time, banks pay a relatively high rate of interest on time deposits, while interest payments on demand deposits are prohibited. Thus, the return that a bank must earn on time deposits must necessarily be higher than the return it must earn on demand deposits.¹⁹ Thus, a bank would be expected to keep a high percentage of the funds it derives from time deposits invested in high-earning assets. This leaves demand deposits to supply funds for the secondary reserve. Therefore, the dependence of the

secondary reserve upon the deposits of a bank takes effect in three ways:

1. The amount of the deposits and their distribution between demand and time deposits.
2. The fluctuations in the amount of these two classes of deposits.
3. The distribution of the size of the deposit accounts.²⁰

A conscientious banker must, of course, be sensitive to changes that occur outside of the bank as well as to changes that occur within the bank. Individual communities are subject to economic factors that are peculiar to a particular region. The danger of relying on one major industry or customer has already been mentioned. Changes in the industrial components of a community or population changes may call for an adjustment in bank strategy. These and any other "local" considerations all play a part in the operations of a commercial bank.²¹

In addition to local considerations, national economic conditions must be taken into account by the individual banker. The more widely diversified a bank's service area, the greater the probability that national conditions will be reflected in the bank's business. Treasury and Federal Reserve policy especially must be watched closely.

A secondary reserve may have other functions apart from the two that we have mentioned. Some authors maintain that secondary reserves are a bank's protection against panic withdrawals during periods of crisis and depression. Raymond P. Kent, for example, states that:

... it is a generally accepted doctrine of good bank management that the secondary reserve plus the primary reserves should always be sufficient to enable a bank to meet even the panic withdrawals that may occur in periods of economic crisis and depression. The idea is, of course, that the bank must always be in a position to protect its solvency; and it must be in such a position even when, as in periods of prosperity, times of economic crisis and difficulty appear to be exceedingly remote.²²

This function of a secondary reserve, however, is not as generally accepted as Mr. Kent would have us believe. In fact, his statement is anything but a "generally accepted doctrine of good bank management." Donald R. Hodgman, for example, in Commercial Bank Loan and Investment Policy, stands in direct opposition to Mr. Kent. He states:

I shall assume common acceptance of the proposition that in time of a perverse liquidity crisis only prompt and powerful action of the central bank to monetize

assets of the commercial banks can provide the banking system with enough liquidity to go around. In such a cataclysm the survival of even a well-managed bank may depend more upon the policy of the central bank than on that of its own management.²³

He goes on to say that in a general liquidation crisis the central bank alone can provide adequate liquidity. No individual bank can safeguard its own position by holding saleable assets, since no one will be willing to purchase them in a liquidity crisis. He concludes:

Therefore, the task of management is to anticipate those deposit drains which, while exceeding the amounts that can be met by borrowing at the Federal Reserve Bank, have a good probability of occurrence without involving the entire banking system and thus forcing a liberalization of central bank policy. The size of such drains determines the "rock bottom" for the investment portfolio.²⁴

This latter view would seem to hold more water than the view expressed by Mr. Kent. The correctness of this position stems from the fact that it is impossible for the whole banking system to possess any large degree of liquidity. It is quite clear that the liquidity of any particular bank's assets depends upon the willingness of the other parts of the banking system to lend or invest freely. Of

course, commercial banks may shift the burden of providing liquidity upon the central bank, but any wholesale attempt on the part of the system to liquidate its loans and investments must fail.²⁵

It should be noted that the empirical evidence provided by the experiences of the 1930's supports this view. C. A. Wright, in a study conducted for "The Bankers Magazine," stated the following:

Figures published by the Federal Reserve Board indicate that there was no dearth of eligible paper in the Federal Reserve System as a whole during the crisis of 1931-32. Nevertheless, the general widespread demand for liquidity necessitated by the emotional behavior of depositors led to the exhaustion of primary reserves by many otherwise sound banks, and to the liquidation of secondary reserves on a scale great enough to demoralize the security markets; the possibility that this demoralization was occasioned by a general desire for relatively liquid forms of wealth would seem to be confirmed by the extension of price declines to the commodity market. It therefore seems reasonable to conclude that, during a period characterized by rapid liquidation, it is impossible for the banking system to alter within itself the distribution of its credit resources so as to maintain a safe position. In different terminology, "shiftability" of assets is no longer sufficient to maintain the liquidity of large portions of the banking mechanism.²⁶

The author goes on to conclude that:

The existence of eligible paper in 1931-32, the situation was the same in 1933, was insufficient to prevent widespread bank closings, and a resort to "shiftability" through the market also failed. It seems evident that the preservation of banking liquidity in time of crisis involves the absorption by the public of assets formerly held by the banking system; ... in other words, the public must exchange its quick deposits for slow assets just when it is unwilling to do so.²⁷

This position is further substantiated by a banker by the name of Eugene H. Burris who in the last part of 1931, while president of the Oregon Bank and Trust Company, wrote an article which appeared in "The Bankers Magazine." His article was concerned with whether or not it was desirable to rely on bonds (any kind of bonds) for liquidity during a crisis. He stated that his bank had met all of its liquidity requirements through note collections rather than through the sale of any assets. He further stated:

Shall we bankers not face the facts? Bonds have acted no differently in this depression than in every previous depression. In every former depression, without exception, for at least fifty years, bonds as secondary reserves

have been a frail staff to lean upon. We may point to them with pride. We may advertise them. But we dare not sell them.²⁸

From this discussion then, we shall conclude that commercial banks cannot protect themselves by maintaining sufficient liquidity to meet excessive withdrawals brought on by a liquidity crisis. Only during "normal" times can a commercial bank obtain liquidity (cash) through the sale of assets.

Secondary Reserves and Capital Funds

There is another function of the secondary reserve, however, which is considered most important by many bankers. This function has to do with the amount of capital funds in a commercial bank and the degree of risk entailed in a bank's lending and investing of funds. Almost all commercial banks are capitalized at less than ten percent of total assets. This means that a commercial bank cannot afford to expose itself to a very large degree of risk as it cannot afford to lose very much.

There are two types of risks that can result in losses for a bank. The first type of risk is the credit risk, which depends on the quality of a bank's assets (the risk of a loan going bad or of default as

to interest or principal on a bond or note). The second type of risk is market risk, which results from changes in the interest rate structure.

From the standpoint of capital adequacy, market risk is not particularly important unless the secondary reserves of the bank are inadequate to meet the potential needs for liquidity. If this is the case, then the banker runs the risk of having to dispense of a long-term bond (or other asset) at a price which may be very much below what was paid for it. Thus, even though the asset sold might have a negligible credit risk, capital backing would be required. This diversion of capital to cover investment market risks results in less capital to cover credit risks, and the bank's lending function would be impaired.²⁹ According to one author:

At the present time, because of the existence of central banks, the dangers of nonliquidity are minor compared to the dangers of impairment of capital. Therefore, bank management is giving more attention to this problem than was true in the past. Emphasis on solvency is synonymous with emphasis on the quality of assets.³⁰

The American Bankers Association, in The Commercial Banking Industry, had the following to say on this subject:

Enough assets involving no credit risk should be included among the bank's investments at all times to hold within reasonable bounds its overall risk exposure -- including risks assumed in loans. To provide proper balance for a bank's total assets, for example, it may need to hold a larger volume of U.S. Government securities than would be needed solely to provide liquidity.³¹

Determining Liquidity Requirements

We are now in a position to say something about the size or magnitude of the secondary reserve for a commercial bank. J. H. Wilkinson, Jr. feels that there are four basic factors that should determine the size of a secondary reserve for any commercial bank.³² These factors include the nature of the deposits of the bank, the size and condition of the bank's capital account, the condition of the loan and discount portfolio, and the position of the business cycle. Charles L. Prather lists these same four factors as the determinants of the size of the secondary reserve.³³ Paul M. Atkins, in an article prepared for "The Bankers Magazine," listed nine factors that determine the size of the secondary reserve. They are:

1. The larger the volume of deposits the larger should be the secondary reserve.

2. The larger the proportion of demand deposits to total deposits, the larger proportionately should the secondary reserve be since demand deposits require a relatively larger reserve than do time deposits.

3. The less the stability of deposits the larger should be the secondary reserve.

4. The higher the rapidity of fluctuation of deposits, the larger should be the secondary reserve.

5. The smaller the ratio of total surplus to deposits, the larger should be the secondary reserve.

6. The less liquid the funds in which the net worth is invested, the larger should be the secondary reserve.

7. The smaller the proportion of the local loans and discounts eligible for rediscount at a Federal Reserve bank, the larger should be a secondary reserve.

8. The larger the proportion of the earning assets invested in local loans and discounts and in local mortgages, the larger should be the secondary reserve.

9. The smaller the primary reserve (within limits) the larger should be the secondary reserve.³⁴

Although this list would seem to be quite exhaustive, a second reading will show that it is also quite general and unspecific. The author is aware of this, and states: "Like so many other instances in the field of practical economics, this is a case where good judgment based on experience must be applied."³⁵ This still tells us nothing about how a bank should determine the size of its own particular secondary reserve, and it is to this subject that we now turn.

In order for an individual banker to determine his liquidity requirements he must begin with an analysis of past deposit activity to determine whether there are any repetitive, predictable performance patterns.³⁶ The study should go back at least five years and encompass a full business cycle if possible. Data may be for aggregate deposits, or they may be divided into types of deposit categories. The data should be in terms of daily figures, or at least weekly averages.

These data may then be plotted on a 12-month graph, with each year superimposed on the preceding year's plotting. This will permit the banker to see more clearly the nature of seasonal patterns in deposit or loan activity for future reference. The same data should then be plotted on a graph covering the full historical period being reviewed. This will provide the banker with a rough picture of his growth pattern and is the basis for establishing a program for the employment of funds. By inspection, a hard core line might then be drawn so that it roughly parallels the deposit trend, but is sufficiently below the deposit plot so that at no time does the graph for actual deposits fall below the hard core line (except for any extremely unusual

and temporary deposit loss). The volume of deposits falling below the hard core line represents the "stable" portion of the bank's deposits, to be used in cash, customer loans, and the residual investment area, with the exception of providing for loan liquidity, as discussed below. The volume of deposits exceeding the hard core line represents the volatile area which should be employed in liquidity reserve assets.

To the extent that deposits decline, a portion of the legal reserve cash funds are released and may be used to supplement the liquidity reserve function. Whether the individual banker wishes to take this into account in determining the size of the liquidity reserve, or whether he wishes to ignore it and thus look upon such funds as providing him with a margin of protection against unforeseen demands, is a matter of choice.

In the plotting of loans to help determine liquidity needs, the banker is primarily interested in how high loan demand might go. Therefore, he should plot a loan ceiling line to appear above the plot of actual loans in the same manner that he plotted a hard core line for deposits. The difference between the actual loan level and the loan ceiling line at any given time represents the

amount of liquidity he should wish to retain in his liquidity reserve for loan demands. Since this liquidity is in addition to the amount of protective, or deposit, liquidity being maintained, the equivalent of the loan liquidity assets must be established at the expense of the residual investment area.

The next step is to project the hard core line, or loan ceiling line, into the future period, for example, into the next 12-month period. Finally, he superimposes on this projection, for each monthly period, the average derived monthly liquidity need for that future month. The result is a projection of anticipated actual deposits (or loans) for the next 12-month period, and the diversion of these funds between hard core, or stable deposits, and those requiring offsetting employment in the liquidity reserve.

These estimates, of course, are based solely upon historical performance and adjustments in projections to current conditions should be made if warranted. In any case, until it can be established that any differences are attributable to basic (or temporary) factors, a conservative tack should be followed. If the differences are temporary, which implies a self-correcting movement, no changes need be made in the forecasts.

Of course, the method just described is not the only approach that can be used, and there are undoubtedly many variations of this method.

However, the statistical method, in whatever form, can be used by an informed banker to more adequately estimate his own liquidity needs.

These sentiments can be found expressed by any number of respected authors, although the method may be different from that described above.

Roland I. Robinson, in The Management of Bank Funds, states:

Although there are a number of ways in which seasonal influences are felt in banks, for the purpose of rough estimation the main forms of influence are two: (1) fluctuations in short-term loan demand, and (2) fluctuations in demand deposits. ...

The effects of these two major factors in terms of cash demand are opposite. The growth of loans gives rise to cash demands, the decline of deposits gives rise to a cash demand. ...

Because the whole estimation of seasonal fluctuations has the sole purpose of figuring out the shape and size of expected cash demands, these two factors have to be used in reverse; the seasonal highs of loans and the seasonal lows of deposits are added to find the cash demand.³⁷

The American Bankers Association, in The Commercial Banking Industry, describes a statistical method for estimating loan highs and deposit lows and goes on to say:

Once estimates have been made of the probable deposit floor and loan ceiling, the size of the secondary reserve can be determined in the following manner.

- 1) Compute the difference between current deposits and the estimated deposit floor, and the difference between current loans and the estimated loan ceiling. The sum of these differences, plus whatever extra margin of safety is decided upon, represents the total potential loss of funds for which provision must be made in the secondary reserve.
- 2) From this total subtract any deposits with the Federal Reserve Bank or correspondent banks in excess of legal requirements and minimum acceptable balances. A further subtraction can be made for the amount of legal reserves that would be released by a decline in deposits to the estimated deposit floor. The resulting balance is the amount required in the liquidity account.³⁸

The list could go on,³⁹ but the examples cited above are representative and sufficient for our purposes. The major point to be made here is that each bank must determine its own liquidity needs as reflected in a study of its past history. Each bank should determine how high its loan demand might go and how low its

deposits might go (perhaps taking into account the adjustments mentioned above) in order to determine how much liquidity it would need under adverse (but not crisis) conditions. The effect of risk exposure (capital adequacy) on the size of the secondary reserve will also vary among individual banks.

Liquidity Standards

A subject that should be brought up at this point is the supposed existence of "formulas" or "ratios" for determining the proper size of a secondary reserve. J. Laurence Kolb, for example, used the following formula while at the Elmira Bank and Trust Company in New York:

Secondary Reserve shall consist of prime commercial paper, call loans, bankers acceptances and prime bonds and notes maturing within four years. These reserves shall not be less than (a) 24% of all Time and Demand Deposits plus (b) 50% of Public Deposits.⁴⁰

Donald R. Hodgman, in Commercial Bank Loan and Investment Policy, makes mention of bank "ratios" such as the "total investments to total assets" ratio and the "government bonds to total assets" ratio.⁴¹ Charles L. Prather also mentions these

ratios in his Money and Banking.⁴² Eugene H. Burris, in an article espousing "Scientific Management Policies" for commercial banks, stated:

From banking experience it has been concluded that, generally speaking, 35 per cent of demand deposits and 10 per cent of time deposits represent proper proportions to be invested in quick assets readily convertible on occasion to meet ordinary withdrawals.⁴³

These references seem to hint that there are certain minimum "liquidity ratios" that a bank should or must adhere to. The fact that the banking industry is heavily regulated would seem to support this view. However, this author was not able to find any evidence which would lend support to this proposition. There are certainly no legal requirements for commercial banks to maintain some minimum liquidity ratio (aside from primary reserves). In response to this author's inquiries on this subject, Mr. Frederic Solomon, Director of the Division of Supervision and Regulation of the Federal Reserve System, had the following to say:

The loan-to-deposit ratio to which you refer has been used for many years by bankers and bank supervisors to

demonstrate the extent to which a bank has used its available resources to accommodate the credit needs of its customers. The presumption is that the higher the ratio of loans to deposits, the less able a bank will be to meet additional loan demand and sudden deposit withdrawals. A sustained, inordinately high ratio may result in prolonged and continuous borrowing, a questionable practice for banks.

There is no standard loan-to-deposit ratio applied universally by bank supervisors as the ideal loan position for any given bank. The average ratio for all commercial banks ... is sometimes used as a guide and banks with ratios ranging too far beyond the average are arbitrarily criticized by some bank supervisors. The pitfalls of this are obvious. A ratio of, say, 80 per cent, for a bank with substantially all of its loan portfolio in long-term paper is, at least on the surface, excessive and should be criticized. However, an 80 per cent ratio in a bank with a portfolio comprised chiefly of short-term, prime paper is clearly tenable in the absence of other factors usually having an adverse effect on liquidity. It is apparent from this that no rule of thumb can be established to measure all banks. ...

The ratio of cash assets and U.S. Government securities to total assets to which you refer is only infrequently used by bank supervisors.

... To appraise the liquidity requirements of an individual bank one needs to know tremendously more about the bank than either of these two ratios, or any other ratios, can reveal. ⁴⁴

From the foregoing discussion, this author can only conclude that there are no "standard" liquidity ratios

in the American banking system. If any such standard exists, it is an informal one. Actually, it is quite reasonable to suspect that there may well be an informal liquidity standard in the system in the form of the "industry average." It is quite likely that most bankers would hesitate to deviate too far from the industry averages in their loan and investment policies, either through fear of disapproval by the regulatory authorities or through adherence to "conservative" banking practices. Discussion of this subject, however, is put off until a later chapter.⁴⁵

Other Bank Assets and Liquidity

At this point one might ask the question: Why should a commercial bank plan on meeting all of its liquidity requirements from the secondary reserve? Certainly there are other assets held by a bank that generate some liquidity (see Exhibit 1). The repayment of loans comes immediately to mind. We will consider this subject by looking at each of the different types of assets held by a commercial bank in turn.

Banks carry accounts with correspondents for a number of different reasons, such as to provide clearing facilities for customers, to have the

EXHIBIT 1

CONSOLIDATED BALANCE SHEET OF LARGE MEMBER
COMMERCIAL BANKS, DECEMBER 24, 1968

(In millions of dollars)

Assets

Loans

Commercial and Industrial	\$ 73,060
Agricultural	2,017
For Purchasing or Carrying Securities	8,577
To Financial Institutions	17,646
Real Estate	31,944
Consumer Instalment	18,567
Foreign Governments	1,125
All Other	14,058
Valuation Reserves	3,237
Total Loans	<u>\$166,995</u>

Investments

U.S. Government Securities	29,160
State and Municipal Securities	34,517
Other Bonds, Stocks, and Securities	4,444
Total Investments	<u>\$ 68,121</u>

Cash Assets

Reserves with F.R. Banks	16,602
Other Cash Assets	35,767
Total Cash Assets	<u>\$ 52,369</u>

All Other Assets

Total Assets	<u>\$295,115</u>
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Liabilities

Demand Deposits	\$112,121
Time Deposits	111,854
Borrowings	
From F.R. Banks	244
From Others	11,214
Other Liabilities	17,808
Capital Accounts	21,842
Total Liabilities and Capital Accounts	<u>\$295,115</u>

Source: Federal Reserve Bulletin.

services of the correspondent in the form of execution of buy and sell orders in the securities markets, and to obtain custodial and safe-keeping services for securities. The bank which provides these services incurs costs in doing so, and will either charge for them directly or require that the benefitting bank keep a sufficient average minimum balance to provide an opportunity for the correspondent to hold enough earning assets to provide commensurate compensation. These balances held with correspondents can be used to provide liquidity to meet a loss of funds. Usually, however, such balances are held at levels commensurate with services rendered and offer only a very limited source of liquidity.⁴⁶

Cash in vault is sterile as it earns no return, and commercial banks generally try to hold it to minimum levels. Excess stocks of vault cash are costly to a bank because of the greater need for protective measures and insurance to which they give rise, and because of the income lost through failure to invest the funds. In a comprehensive study it was found that: "The interviews suggest that without exception bankers were currently attempting to hold only that amount of cash which they regarded as sufficient to meet minimum operating requirements."⁴⁷

As a result, there is virtually no usable liquidity in most banks' holdings of vault cash. By the same token, cash items in process of collection are also kept at a minimum, and are not a source of planned liquidity.

Required reserve balances at the Federal Reserve Bank obviously can not be used for liquidity purposes. However, excess reserve balances represent free cash and so are available for liquidity needs. Usually, however, banks will try to keep their excess reserves at a minimum.⁴⁸

The cash flow which arises from the repayment of loans at maturity is one aspect of loan portfolio liquidity. This cash flow is a function not only of the maturity composition of the loan portfolio but also of the borrowers' intentions to repay loans at scheduled maturity dates.⁴⁹ This depends on a customer's abilities to repay, tacit understandings with the bank, and other intangibles. According to one banker:

The liquidity of loans depends on the pay-out prospects of the individual borrowers. We have 60-day notes which are renewed continuously so that their actual maturity is longer than some term loans. The maturity composition of the loan portfolio is important for public relations because it is used by many analysts, but it is of little practical significance for liquidity.⁵⁰

Apart from this "unreality" of some loan maturities, it must be remembered that loan behavior has already been included in the calculation of liquidity needs. An expansion of total loan volume does increase the need for liquidity and a contraction does decrease it, but this has already been taken into account. Therefore, while it is appropriate to include a projected loan decline as a source of liquidity to meet deposit withdrawals, it is not appropriate to consider loan runoff as a source of funds for loan expansion.

On the other hand, an individual bank could possibly refuse to renew a loan that is due. However, this would be a desperate measure and would not be employed short of a genuine crisis in the life of a bank. Also, such action is almost certain to be an ineffective measure if attempted during a general liquidity crisis. The maturity composition of a bank's loan portfolio is an important factor, however, in determining the eligibility of loans for rediscount. This would appear to be the primary contribution of short loan maturities to a commercial bank's liquidity.

Traditionally the holding of call loans repayable upon a bank's demand has been regarded as a source of liquidity within the loan portfolio.⁵¹ There are two

types of loans which bankers customarily write on a demand basis at the present time: loans with securities as collateral and loans on receivables. In Donald R. Hodgman's study of commercial banks⁵² it was found that in general, the reason bankers give for making these two types of loans on a demand basis is not to preserve the liquidity of the bank, but to protect the bank against a sudden increase in risk resulting from a deterioration in the borrower's position or a sharp drop in the market value of the collateral. None of the bankers interviewed in the study regarded security loans to customers as callable simply to meet liquidity needs, and only a few thought of loans to brokers and dealers as callable at the bank's convenience. We conclude, therefore, that loans written on a demand basis do not in general constitute a source of liquidity for a commercial bank.

In the same study bankers were interviewed to determine whether they considered the sale of loans as a possible source of cash to meet liquidity needs.⁵³ Among the banks interviewed (18 major banks in San Francisco, New York, and Chicago) only three regarded the outright sale of loans to another bank or financial institution (other than the Federal

Reserve Bank) as a device to gain liquidity. Even these three agreed that such sale was considered highly unusual. The author concludes:

On balance the banks in the survey do not look to the sale of loans as a potential source of liquidity other than in the sense of gaining "elbow room" through participations. Even here, there is the important qualification that these participations may intensify the major banks' liquidity problem in time of a liquidity crush rather than ease it. ... Accordingly, it appears that the sale of loans to gain liquidity is a weak reed for any bank to rely upon.⁵⁴

We may conclude, then, that since cash assets tend to be held at a minimum, and since the loan portfolio's contribution to all but last-ditch liquidity is insignificant, the bank must turn elsewhere for liquidity. In other words, the bank must maintain a secondary reserve of highly liquid assets to provide for deposit withdrawals, increased loan demands, and unnecessary risk exposure.

This conclusion, however, ignores one important fact: a bank is not necessarily restricted to the asset side of the ledger in meeting its liquidity needs. There is a certain amount of flexibility in managing the liability side of the balance sheet as well. An individual bank, for example, may aggressively

try to attract time certificates of deposit. The individual bank can also use various forms of borrowing. These include the purchase of federal funds, the sale of securities under repurchase agreements, borrowing from correspondent banks, borrowing from the Federal Reserve, and borrowing through the issuance of unsecured notes.⁵⁵ The management of liabilities can be an important factor in a commercial bank's operations. In fact, the management of liabilities has come to play a very important role in the American Banking Industry in the last ten years. We will not examine this role, however, until the next chapter, so for the present we will assume that the management of liabilities does not greatly affect an individual bank's liquidity position.⁵⁶

Secondary Reserve Assets

As was mentioned previously,⁵⁷ a secondary reserve should consist of short-term, readily marketable, high quality assets. The commercial banker must, of course, determine what assets meet these criteria. There is no formula that can be applied to decide exactly what assets should be included in the secondary reserve. There is general agreement, however, as to what type of assets can be included in the secondary reserve.

The Bankers' Handbook, for example, states the following:

Typically, the liquidity account includes U.S. Treasury bills and other Treasury and federal agency securities of short (less than one- or two-year) maturities, short-term high quality municipal obligations with broad market acceptance, commercial and finance paper, bankers' acceptances, broker and dealer loans, Federal funds sold, and securities purchased under repurchase agreement (RPs).⁵⁸

Lists similar to this can be found in a number of other references.⁵⁹ Most of these authors agree on the general type of assets that may be included in the secondary reserve with perhaps one exception. There is some disagreement as to whether medium-term and long-term U.S. Government securities should be considered as part of the secondary reserve or as part of the investment (residual) account.

Some authors feel that medium-term and long-term U.S. Government bonds should never be included in the secondary reserve. The definition above, for example, excludes all securities that have maturities of longer than two years. J. Harvie Wilkinson, Jr., states that only prime securities with short maturities -- not more than four years -- are eligible for the secondary reserve. He further states that all medium-term and long-term U.S. Government obligations will automatically

be excluded from the secondary reserve since they have maturities of more than four years.⁶⁰ Raymond P. Kent is in complete agreement with this view, and states:

Treasury bonds are not generally regarded as includable among secondary reserves at the time of their original sale or when, in any case, they have several years to run to maturity. They are not liquid in the sense of early assured repayment of the principal, and their marketability is in question -- in the sense ... of salability at no appreciable loss.⁶¹

Other authors feel that the whole concept of using long-term Government bonds as part of the secondary reserve is in violation of every principle of a well organized banking structure.

The logic behind these pronouncements is that the market values of long-term bonds -- including U.S. Government bonds -- fluctuate widely. Thus, even though U.S. Government bonds are essentially riskless as to default, changes in the interest rate structure can result in wide fluctuations in their prices. In a period of rising interest rates (and falling bond prices) a commercial bank would not be willing to sell its long-term U.S. Government bonds, for to do so would result in a capital loss on the bonds (assuming they were purchased when prices were high).

This is not the only side of the story, however. There are other authors who feel that all U.S. Government bonds should be included in the secondary reserve. The reason is that U.S. Government obligations are excellent collateral for loans at a Federal Reserve bank (or at any other financial institution for that matter). Existing regulations provide that U.S. Government bonds shall be accepted as collateral at all Federal Reserve banks at par regardless of what the market price may happen to be.⁶² This means that, in effect, there is a lower level below which the collateral value of U.S. Government bonds cannot fall.⁶³ Dr. Paul M. Atkins, in an article for The Bankers Magazine, had the following to say about the suitability of long-term U.S. Government bonds for the secondary reserve:

... United States Government securities are also desirable for a secondary reserve. ... The long term issues, however, are very sensitive to fluctuations in interest rates and hence are likely to fall rapidly in price with a rise in interest rates. They are, nevertheless, very suitable for the secondary reserve of a bank because all United States Government issues -- long and short term alike -- are eligible to secure loans at the Federal Reserve banks. They are, moreover, the only securities which are eligible. Their possession, therefore, adds substantially to the liquidity of a bank.⁶⁴

It is impossible to say which of the two views presented above is correct, or even which view is more correct than the other. It all depends on how you want to look at it. For the purposes of this study, however, the latter view must prevail.

There are three reasons for accepting this view. First of all, as was mentioned, all U.S. Government securities are excellent collateral for loans at the Federal Reserve banks and other financial institutions. Since these securities are eligible to be discounted at par at the Federal Reserve banks, any banker may use them to obtain funds at no loss regardless of what the market price of such securities might happen to be. However, since borrowing at Federal Reserve banks is considered to be a privilege to be exercised only for short periods of time,⁶⁵ using such securities as collateral for loans at the Fed is not an appropriate source of liquidity for long-term loan expansion. Nevertheless, this source of liquidity is very well suited to the seasonal needs of many commercial banks. For example, an individual commercial bank may find that it is pressed for cash because of deposit withdrawals or heavy loan demands at a time when the market value of its long-term U.S. Government securities is lower than the price that was paid for

them. At such a time the bank might well prefer using these securities as collateral for a loan until the pressure subsides, waiting for a more opportune time to dispose of the securities. Also, in times of dire need, the Fed would certainly accept such collateral for as long as was necessary.

Secondly, Florida law states that commercial banks operating under a State charter must keep a primary reserve (cash reserve) amounting to at least 20% of the aggregate amount of its deposits in the form of cash and/or bonds and securities of the United States and bonds and securities guaranteed as to principal and interest by the United States. The wording of the statute is as follows:

Every bank shall at all times have available in cash an amount equal to at least twenty per cent of the aggregate amount of its deposits. Such portion of said reserve as the bank may desire may be invested in bonds and securities of the United States and bonds and securities guaranteed as to principal and interest by the United States, owned and unpledged by the bank, or which are in excess of the total deposits which they are pledged to secure, and balances payable on demand, due to the company from banks with whom such company may keep its current account.⁶⁶

If all U.S. Government bonds can be counted as part of a bank's primary reserve (in Florida), then such bonds

are certainly good enough to be counted as part of a bank's secondary reserve.

The third reason (which is actually an extension of the second) is that the one-hundred fifteen commercial banks which form the sample used in Chapter III of this study are all state banks chartered in Florida.

Conclusions

We are now in a position to draw some conclusions about commercial bank secondary reserve accounts. First of all, "secondary reserve" is not a precise term and has never been legally defined. Nevertheless, there is general agreement in the industry that a secondary reserve consists of short-term, readily marketable, high quality assets.

Second, a secondary reserve serves three main functions: (1) to provide a bank with a source of funds with which to meet deposit drains; (2) to provide a bank with a source of funds with which to meet increased loan demand; (3) to prevent capital impairment through the forced sale of assets at below-cost prices and provide for a satisfactory level of risk exposure. Protection against depression is not a function of a secondary reserve as it is impossible for commercial banks to maintain sufficient

liquidity to meet excessive withdrawals brought on by a liquidity crisis.

Third, the size of a bank's secondary reserve depends on the nature of the deposits of the bank, the size and condition of the loan and discount portfolio, and the position of the business cycle. Each individual banker must determine his own liquidity requirements by analyzing his bank's past history and the environment within which his bank operates. This analysis should include a statistical analysis of past deposit and loan activity with a projection of these data into the future. In the final analysis, this is a case where good judgment based on experience must be applied.

Fourth, it is possible that American banks adhere to an informal liquidity standard in the form of the industry average. If this is so, it means that most banks do not determine their own liquidity needs, but rather rely on the industry average (and perhaps regulatory prodding) to tell them how large their secondary reserves should be. This subject is discussed in Chapter III.

Fifth, the secondary reserve is a bank's primary source of liquidity as none of a bank's

other assets -- including loans -- can be expected to contribute anything but an insignificant amount to a bank's liquidity.

Sixth, it is possible that a bank may obtain some degree of liquidity through the effective management of its liabilities. This subject is discussed in Chapter II.

Seventh, for the purposes of this study all U.S. Government bonds will be counted as part of a bank's secondary reserve.

Notes

1. Paul M. Atkins, "The Scientific Organization of a Secondary Reserve," The Bankers Magazine, CXXI, No. 2 (August, 1930), 217.

2. Ibid.

3. Paul M. Atkins, "Secondary Reserve Policies and Programs," The Bankers Magazine, CXXXIX, No. 6 (December, 1939), 479.

4. J. Harvie Wilkinson, Jr., Investment Policies for Commercial Banks (New York: Harper and Brothers, 1938), 13.

5. Charles L. Prather, Money and Banking (Chicago: Richard D. Irwin, Inc., 1949), 327.

6. For example, see Donald R. Hodgman, Commercial Bank Loan and Investment Policy (Champaign: University of Illinois, 1963), 46-75; Roland I. Robinson, The Management of Bank Funds (New York: McGraw-Hill, 1962), 23-92; and H. Parker Willis, American Banking (Chicago: LaSalle Extension University, 1918), 147-76.

7. The American Bankers Association, The Commercial Banking Industry (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1962), 273-74.

8. A more detailed discussion of the types of assets found in the secondary reserve can be found in a later section of this chapter.

9. Baughn and Walker, op. cit., 562.

10. James S. Duesenberry, Money and Credit: Impact and Control (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1967), 42.

11. Rollin G. Thomas, Our Modern Banking and Monetary System (New York: Prentice-Hall, Inc., 1950), 214.

* 12. The American Bankers Association, op. cit., 271.

13. Ibid.

14. See Robinson, op. cit., 23-40.

15. Ibid., 23.

16. Ibid., 26-27.

17. Ibid., 60.

18. Ibid., 63.

19. Otherwise, time deposits would not be profitable, given the low rate of return on total assets in the banking industry.

20. Paul M. Atkins, "The Relation of Deposits to Secondary Reserves," The Bankers Magazine, CXXI, No. 4 (October, 1930), 479.

21. For a more detailed discussion of this, see Baughn and Walker, op. cit., 568-72.

22. Raymond P. Kent, Money and Banking (New York: Holt, Rinehart and Winston, 1961), 297.

23. Hodgman, op. cit., 57.

24. Ibid., 74.

25. For a more detailed discussion of this subject, see Thomas, op. cit., 220-27.

26. Charles Ashley Wright, "Bank Liquidity and the Eccles Bill," The Bankers Magazine, CXXX, No. 5 (May, 1935), 528-29.

27. Ibid., 533.

28. Eugene H. Burris, "Do Bank Secondary Reserve Theories Need Revising?," The Bankers Magazine, CXXIII, No. 6 (December, 1931), 736.

29. See Baughn and Walker, op. cit., 562-77.

30. Prather, op. cit., 324.

31. The American Bankers Association, op. cit., 271.

32. See Wilkinson, op. cit., 17-23.

33. Prather, op. cit., 328.

34. Paul M. Atkins, "Secondary Reserve Policies and Programs (Part II)," The Bankers Magazine, CXL, No. 1 (January, 1940), 7-8.

35. Ibid., 8.

36. The following method is a synopsis of the approach described in Baughn and Walker, op. cit., 572-77.

37. Robinson, op. cit., 64-65.

38. The American Bankers Association, op. cit., 278-79.

39. For example, see Hodgman, op. cit., 46-53, or L. Sumner Pruyn, "Framing a Flexible Bank Investment Program," Burroughs Clearing House, 35, No. 4 (January, 1951), 32-33.

40. J. Laurence Kolb, "Setting Up a Bond Account Formula," Burroughs Clearing House, 25, No. 4 (January, 1941), 13.

41. Hodgman, op. cit., 40.

42. Prather, op. cit., 277.

43. Eugene H. Burris, "Today's Bank Investment Program," The Bankers Magazine, CXX, No. 1 (January, 1930), 14.

44. From a personal letter to the author from Mr. Solomon.

45. See Chapter III.

46. The American Bankers Association, op. cit., 273.

47. Hodgman, op. cit., 56.

48. The American Bankers Association, op. cit., 273.

49. Hodgman, op. cit., 57-58.

50. Ibid., 58.

51. Ibid., 59-60.

52. Ibid., 59.

53. Ibid., 60-61.

54. Ibid., 61.

55. Baughn and Walker, op. cit., 581.

56. There is a good reason for making this assumption as will be made clear in Chapter II.

57. See page 15.

58. Baughn and Walker, op. cit., 581.

59. For example, see Paul M. Atkins, "Secondary Reserve Policies and Programs (Part II)," The Bankers Magazine, CXL, No. 1 (January, 1940); Wilkinson, op. cit., 13; "The American Bankers Association, op. cit., 274-75; Paul M. Atkins, "The Scientific Organization of a Secondary Reserve," The Bankers Magazine, CXXI, No. 2 (August, 1930); Paul M. Atkins, "Secondary Reserve Program," The Bankers Magazine, CXL, No. 2 (February, 1940); and Richard M. Stern, "Common Errors in Portfolio Management," The Bankers Magazine, CXXXVIII, No. 1 (January, 1939).

60. Wilkinson, op. cit., 13.

61. Kent, op. cit., 305.

62. See Board of Governors of the Federal Reserve System, "Regulation A: Advances and Discounts by Federal Reserve Banks," Code of Federal Regulations, Title 12, Chapter II, Part 201.

63. Paul M. Atkins, "Secondary Reserve Program," The Bankers Magazine, CXL, No. 2 (February, 1940), 109.

64. Paul M. Atkins, "Difference Between Bank Secondary Reserve and Investment Accounts," The Bankers Magazine, CXXI, No. 3 (September, 1930), 345. Also see Paul M. Atkins, "Liquid Assets for the Secondary Reserve," The Bankers Magazine, CXVIII, No. 3 (September, 1931), 341-42.

65. See Chapter II.

66. Fred O. Dickinson, Jr., Comptroller and State Commissioner of Banking, Laws of the State of Florida, Banking Code, Second Part, Paragraph 659.16 (Tallahassee: 1968), 71-72.

CHAPTER II

THE INDUSTRY TRENDS: 1953-1968

The Liquidity of the System

In order to determine the changes in the liquidity of the American banking industry over a period of time it would be desirable to tabulate the secondary reserves held by the system for a number of years. In order to do this it would be necessary to have a detailed breakdown of the assets held by the banking industry. Unfortunately, such information is not available.¹ The Federal Reserve does report the principal assets and liabilities of all commercial banks on a monthly basis,² divided into four groups: loans, U.S. Government securities, other securities, and cash assets (required reserves and excess reserves). Since U.S. Government securities account for more than ninety percent of the liquid assets of all commercial banks,³ total U.S. Government securities held are used in this chapter as a substitute for secondary reserve and as a measure of the liquidity of the banking system.

The amount of U.S. Government securities held by commercial banks, as a percentage of total assets on a monthly basis for the years 1953 through 1968, is presented in Table 1. These same data are presented on a quarterly basis in graphic form in Figure 1.

TABLE 1

U.S. GOVERNMENT BONDS HELD BY COMMERCIAL BANKS, 1953-1968
(As a percentage of total assets)

	1953	1954	1955	1956	1957	1958	1959
January	35.1	34.7	34.4	30.0	26.9	27.1	29.0
February	34.6	34.2	33.7	29.3	27.3	27.2	28.4
March	34.1	33.1	32.8	28.8	26.9	27.4	27.6
April	33.5	33.9	33.0	28.6	27.3	28.2	27.3
May	33.3	34.4	32.9	28.2	27.2	28.6	26.9
June	32.8	33.3	31.8	27.5	27.2	28.2	26.2
July	35.1	34.0	31.9	27.7	26.3	28.6	26.1
August	34.8	35.3	31.3	28.0	26.6	29.3	25.7
September	34.1	34.9	30.9	27.5	26.6	28.7	25.0
October	34.1	35.5	31.1	27.5	26.4	28.9	25.2
November	34.5	35.1	30.1	27.7	26.8	29.0	24.6
December	33.3	34.0	29.2	26.9	26.1	27.8	24.2

TABLE 1 (Continued)

1960	1961	1962	1963	1964	1965	1966	1967	1968
24.6	25.1	25.1	23.2	20.3	18.4	16.2	14.4	14.2
25.1	24.5	24.6	22.7	20.1	18.0	15.6	14.4	14.5
23.3	24.3	24.2	22.5	19.9	17.2	15.0	14.6	14.1
23.6	24.4	24.0	22.2	19.3	17.0	14.8	14.0	13.6
23.4	24.5	23.9	21.7	19.0	16.7	14.4	13.7	13.7
22.8	24.6	23.5	21.2	18.4	16.0	13.9	13.2	12.8
23.7	25.4	23.6	21.1	18.5	16.3	13.9	13.8	13.2
23.6	25.3	23.4	20.8	18.6	16.0	14.1	14.4	13.5
23.8	25.3	23.1	20.6	18.5	15.8	14.1	14.3	13.4
24.6	25.4	23.0	20.5	18.8	16.3	14.0	14.8	13.7
24.4	25.1	23.1	20.2	18.8	16.2	14.0	14.8	13.1
23.7	24.2	22.7	20.1	18.2	15.7	14.0	14.1	13.0

Source: Derived from Federal Reserve Bulletin.

FIGURE 1

U.S. GOVERNMENT BONDS HELD BY COMMERCIAL BANKS, 1953-1968
(As a percentage of total assets)

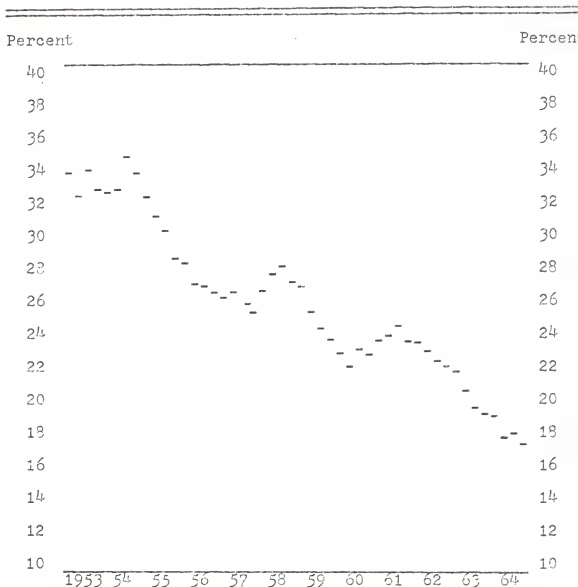
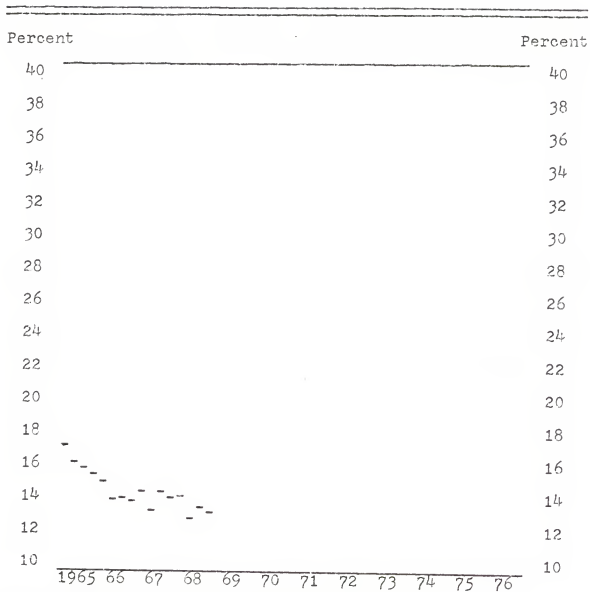


FIGURE 1 (Continued)



Source: Derived from Federal Reserve Bulletin.

The data for the years 1953 through 1961 show that there was a series of peaks and troughs in the relative amount of U.S. Government securities held by the banking system as a whole. These rises and falls are quite easily identified with major monetary policy changes initiated by the Federal Reserve.⁴

The period 1953 through 1954, for example, witnessed a recession during which member bank reserve requirements were reduced several times, producing a big increase in the expansion of reserves and money. This brought about a peak in the amount of liquid assets held by the banking system, as U.S. Government securities held increased to 35.5% of total assets in October of 1954. During the recovery that followed bank loans increased and relative holdings of liquid assets decreased. This trend was accentuated during the upswing in 1955-1957 as the Fed was quick to implement a restrictive policy, virtually freezing both the amount of bank reserves and the reserve requirements. The result was that the growth in the money supply was almost completely halted. Between the second quarter of 1955 and the second quarter of 1957, monetary growth was slightly under \$2,000,000,000. Banks responded to this by selling securities in order to expand loans. During

1955 and 1956, banks' holdings of securities were reduced by \$13,000,000,000, and loans grew by \$20,000,000,000. As a result, bank holdings of U.S. Government securities declined to around 26% of total assets during 1957.

Beginning in late 1957 the Federal Reserve again reversed its policy as it became evident that a recession was well under way. Discount rates were cut repeatedly, from a peak rate of 3.5% in October of 1957 to a low of 1.75% in the spring of 1958. Three rounds of cuts in reserve requirements came in February, March, and April of 1958. Once again, commercial bank holdings of U.S. Government securities rose, reaching a peak of 29.3% in August of 1958.

The subsequent recovery saw the return to a restrictive policy, and the reserve base actually declined in the last quarter of 1959. Bank holdings of liquid assets again declined, falling to less than 23% of total assets in mid-1960. However, once recession was clearly identified, Federal Reserve policy undertook a number of expansionary steps. Discount rates, raised to 4% in September of 1959, were cut in June and again in August of 1960. Vault cash became eligible to be counted as part of

member banks' required reserves. The reserve base expanded, and bank holdings of U.S. Government securities again increased until the end of 1961.

Thus, throughout the period 1953-1961 changes in commercial banks' relative holdings of U.S. Government securities can be largely explained by changes in Federal Reserve monetary policy. The overall tendency of a decline in relative holdings of U.S. Government securities during this period (from a peak of more than 35% in 1954 to a peak of about 25% in 1961) is explained by the fact that commercial banks were in general unloading excess U.S. Government securities they had inherited from World War II and the overly-liquid economy of the immediate post-war period.⁵ Commercial banks were employing their funds more profitably, as loans accounted for about 35% of the total assets of the system at the end of 1954 and about 45% of assets at the end of 1961.⁶

From 1961 on, however, changes in commercial bank holdings of U.S. Government securities cannot be so easily identified with monetary policy. Beginning in late 1961 and continuing through 1965 there was a steady and rather steep decline in commercial banks' holdings of liquid assets. At the same time, this was

a period of relative monetary ease and expansion.⁷ After 1965 fluctuations in bank holdings of U.S. Government securities again correspond to changes in monetary policy with lows associated with monetary restriction (Summer of 1966 and Spring of 1968), and highs associated with monetary ease (Summer of 1967 and Summer of 1968). Nevertheless, the total volume of U.S. Government securities held by the banking system remained relatively low throughout this period. We must look elsewhere for an explanation of the rapid decline in commercial bank "liquidity" that took place in the 1960's.

Part of the answer is revealed by an analysis of the liabilities of commercial banks over the period 1953-1968. Time deposits held by commercial banks, as a percentage of total assets, are tabulated in Table 2 on a monthly basis throughout this period. As was the case with U.S. Government securities, these data are also presented in graphic form in Figure 2. It can be seen from these data that time deposits have become increasingly important as a source of funds to the banking system. At the end of 1956 time deposits accounted for slightly more than 23% of total commercial bank resources. By the end of March, 1968, time deposits represented

TABLE 2
TIME DEPOSITS HELD BY COMMERCIAL BANKS, 1953-1968
(As a percentage of total assets)

	1953	1954	1955	1956	1957	1958	1959
January	23.0	23.8	23.6	24.0	24.9	26.7	27.4
February	23.1	24.1	23.9	24.2	25.1	27.0	27.7
March	23.4	24.5	24.3	24.2	25.5	27.2	28.1
April	23.9	24.5	24.0	24.2	25.3	27.0	27.8
May	24.0	24.7	24.2	24.3	25.7	27.6	28.1
June	23.8	24.1	24.2	24.3	25.9	27.1	28.3
July	23.6	24.5	24.0	24.7	25.8	28.0	28.0
August	23.3	24.4	24.2	24.6	25.9	27.9	28.1
September	23.6	24.2	24.2	24.3	26.1	28.0	27.9
October	23.8	23.8	24.0	24.3	26.2	27.3	27.8
November	23.4	23.3	23.6	23.8	26.1	26.9	27.4
December	23.1	23.3	23.1	23.4	25.3	26.6	27.1

TABLE 2 (Continued)

1960	1961	1962	1963	1964	1965	1966	1967	1968
27.8	29.2	31.6	34.8	37.3	38.8	40.3	41.6	42.3
28.0	29.4	32.1	34.9	37.5	39.0	40.4	41.9	42.9
28.5	30.3	33.0	35.6	37.5	38.9	41.0	42.4	43.3
28.1	30.2	33.0	35.8	37.8	39.3	40.9	42.2	42.9
28.4	31.1	33.5	36.0	38.0	39.6	41.4	42.3	42.8
28.5	31.3	33.4	35.3	37.2	38.8	40.2	42.2	41.5
28.5	31.4	34.0	36.0	38.3	40.1	41.3	42.6	42.1
28.8	31.8	34.3	36.8	38.4	40.4	41.4	43.3	42.8
28.7	31.1	33.8	36.1	37.3	40.1	41.2	42.6	42.2
28.5	31.2	33.5	36.5	38.0	40.2	41.0	42.7	42.3
28.4	30.9	33.7	36.0	37.4	40.0	40.2	42.6	42.1
27.8	29.9	33.4	35.6	37.0	39.2	39.7	41.0	40.7

Source: Derived from Federal Reserve Bulletin.

FIGURE 2
 TIME DEPOSITS HELD BY COMMERCIAL BANKS, 1953-1968
 (As a percentage of total assets)

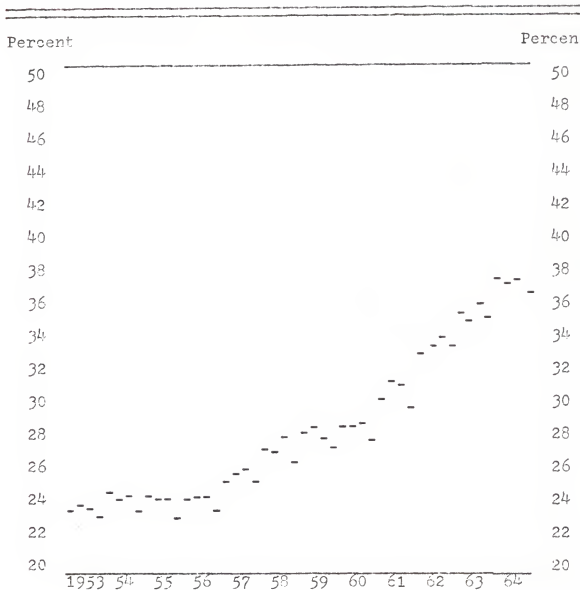
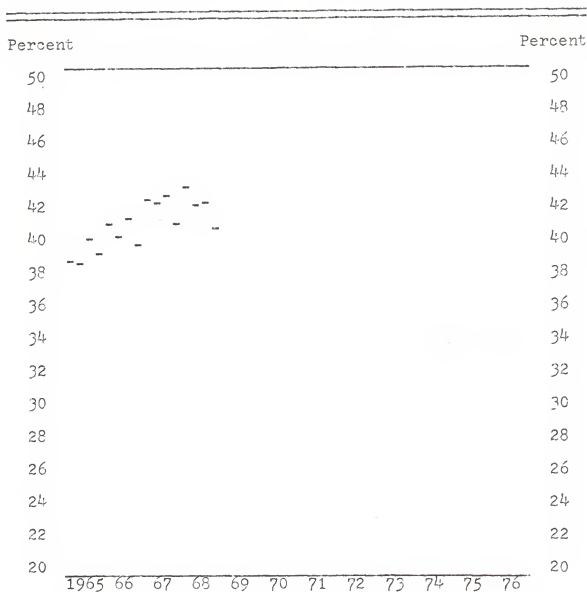


FIGURE 2 (Continued)



Source: Derived from Federal Reserve Bulletin.

TABLE 3
TOTAL ASSETS OF ALL COMMERCIAL BANKS, 1953-1968
(In billions of dollars)

	1953	1954	1955	1956	1957	1958	1959
January	179	185	200	203	207	213	232
February	179	184	198	202	208	214	231
March	178	183	196	203	207	217	229
April	175	183	199	203	210	223	233
May	175	184	197	203	210	221	232
June	179	191	199	206	208	228	232
July	180	190	200	203	211	224	234
August	180	191	200	204	211	226	234
September	183	193	200	207	211	225	237
October	183	198	202	208	212	228	236
November	185	200	204	210	214	232	237
December	190	202	211	218	223	239	242

TABLE 3 (Continued)

1960	1961	1962	1963	1964	1965	1966	1967	1968
235	247	267	285	305	334	367	390	437
234	250	269	288	306	336	368	392	435
233	246	266	288	309	342	369	395	435
237	249	269	289	311	342	374	401	439
235	251	269	291	312	343	373	406	441
237	252	273	300	322	355	385	412	457
239	255	272	297	315	346	380	412	457
240	254	272	293	316	348	381	412	456
243	261	278	300	328	354	381	419	465
246	262	285	301	326	358	382	422	472
247	264	283	307	331	362	387	425	479
258	274	290	312	340	372	398	443	498

Source: Federal Reserve Bulletin.

FIGURE 3
TOTAL ASSETS AND TIME DEPOSITS
OF ALL COMMERCIAL BANKS, 1953-1968
(In millions of dollars)

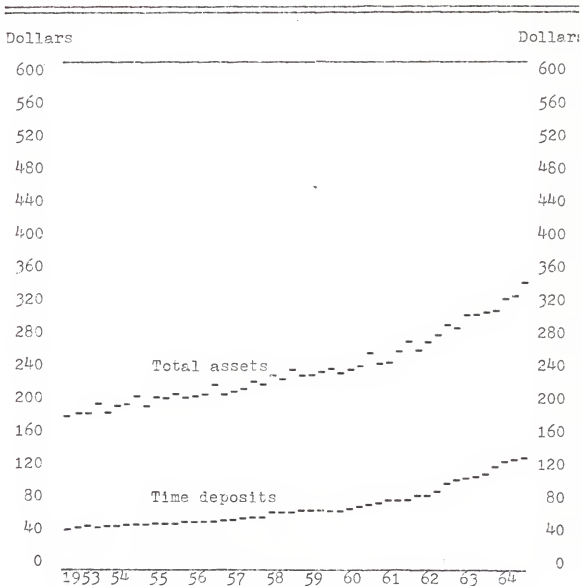
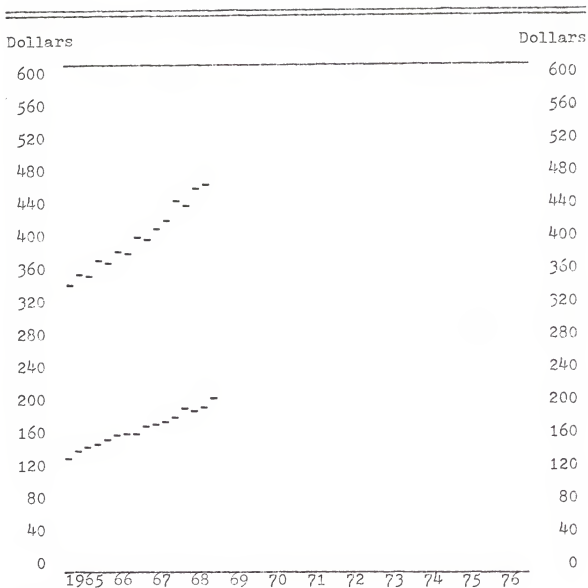


FIGURE 3 (Continued)



Source: Derived from Federal Reserve Bulletin.

more than 43% of the total resources of the banking system, almost doubling in relative size. An analysis of the data found in Table 3 and Figure 3 makes this increased reliance on time deposits as a source of funds seem even more startling.

The total assets of all commercial banks are presented in Table 3 on a monthly basis for the period 1953-1968. The growth in total assets is plotted against the growth in time deposits in Figure 3. Between the end of 1953 and the end of 1960 the total assets of the banking system increased by slightly less than 36%, while time deposits increased by about 63%. During the next eight years, however, the total assets of the system increased by more than 93%, and time deposits increased by more than 182%. Thus, starting in the early 1960's, not only did time deposits come to play a much more important role as a source of bank funds, but they also took on this role at a time when commercial bank assets began to grow at a much faster rate than had been the case in the previous decade. The early 1960's were, in fact, a time during which far-reaching changes were taking place in the American banking system.

The Challenge of Competition

Throughout the decade of the 1950's it became more and more evident to commercial bankers that they were operating in an increasingly competitive environment. Large companies that previously had relied on bank credit were finding that they were generating enough cash from retained earnings and depreciation to meet all of their needs, while others were going to the commercial paper market for their cash needs. Large companies were also beginning to finance their own customers, with the result that accounts payable had replaced bank loans as the major short-term liability of many smaller firms by the end of the decade.⁸ Many firms, large and small, were finding it worthwhile to reduce their checking account balances and place their excess funds in earning assets such as Treasury bills and commercial paper. In addition, individuals were becoming more sophisticated, and were finding that they too could earn a return on excess funds that formerly were left in demand deposits. Finally, and most important, commercial banks were having to compete with other financial institutions for funds. Savings banks and savings and loan associations

TABLE 4

CHANGE IN PERCENT OF SAVINGS OF HOUSEHOLDS IN BANKS
AND SAVINGS AND LOANS, 1946 THROUGH 1965

	Savings of Households in Banks and S & Ls (billions)	Percent in Banks	Change in Percent in Banks
1945	34.5	78.55	--
1946	39.3	78.12	- .43
1947	41.7	76.50	-1.62
1948	43.2	74.54	-1.96
1949	44.8	72.12	-2.44
1950	46.3	69.76	-2.34
1951	49.8	67.67	-2.09
1952	55.6	65.47	-2.20
1953	61.7	63.05	-2.42
1954	68.7	60.26	-2.79
1955	75.2	57.31	-2.95
1956	82.4	54.98	-2.43
1957	92.4	54.65	- .33
1958	103.8	53.76	- .89
1959	114.0	52.11	-1.65
1960	124.3	50.04	-2.07
1961	139.3	49.10	- .94
1962	158.9	49.53	+ .43
1963	177.9	48.68	- .85
1964	196.6	48.22	- .46
1965	216.6	49.08	+ .86

Source: The National Banking Review, December, 1966, 184.

had in many cases entered the commercial banks' sphere of consumer credit lending, either directly or through the indirect method of mortgage refinancing.⁹

Between the end of World War II and 1961 nonbank financial institutions grew more than four times as fast as commercial banks.¹⁰ Mutual thrift institutions enjoyed important competitive advantages over commercial banks, including a privileged tax position, exemption from the cash reserve requirements imposed on member banks, and freedom from restrictions on the rates they could pay for savings. As a result, as can be seen from Table 4, the percent of savings of households in commercial banks decreased from 78.5% in 1945 to less than 50.0% in the early 1960's.

During the early 1960's several changes occurred which enabled commercial banks to compete more effectively with nonbank financial institutions, including certain regulatory changes. During the 1950's the reserve requirements on savings deposits in member commercial banks varied between $7\frac{1}{2}\%$ and 5%. During the early 1960's these requirements were lowered to 4%, and in late 1960, member banks were permitted to count all vault cash as required reserves.¹¹

Throughout the postwar period commercial banks have paid federal income taxes on the same basis as other firms, with the exception of relatively modest tax-exempt allocations of net income to loss reserves. On the other hand, savings and loan associations were permitted tax exemption on virtually all allocations to reserves and undivided profits until 1963. Beginning with 1963, the amount of net income that savings and loans were able to transfer to reserves and undivided profits on a tax-exempt basis was significantly reduced. As a result, the ratio of federal income tax payments to net income for savings and loan members of the Federal Home Loan Bank System, which equaled .00400 for 1962, rose to .14177 for 1964.¹²

The competitive position of commercial banks also benefitted from liberalization in restrictions on investments in conventional mortgage loans by national banks. Prior to 1964 national banks were not permitted to invest in conventional mortgage loans with loan-to-value ratios in excess of 60% and terms exceeding 10 years, and even then the amount of such loans could not exceed 60% of time and savings deposits or the amount of capital, whichever was greater. Since late 1964, however,

TABLE 5
YIELDS ON SELECTED LONG-TERM SECURITIES, 1955-1965

	Conventional Home Mortgage Loans*	FHA Insured Home Mortgage Loans*	U.S. Bonds**	Corporate Bonds**
1955	.0516	.0464	.0282	.0306
1956	.0534	.0479	.0308	.0336
1957	.0583	.0542	.0347	.0389
1958	.0572	.0549	.0343	.0379
1959	.0593	.0571	.0407	.0438
1960	.0624	.0618	.0401	.0441
1961	.0599	.0581	.0390	.0435
1962	.0593	.0563	.0395	.0433
1963	.0582	.0547	.0400	.0426
1964	.0580	.0545	.0415	.0440
1965	.0581	.0545	.0421	.0449

Source: The National Banking Review, December, 1966, 186.

*U.S. averages, based on GHA field office opinions.

**The series for U.S. bonds are averages of daily figures for bonds maturing or callable in 10 years or more. The series for corporate bonds are Moody's Investors Service series for Aaa rated securities.

national banks have been permitted to invest in conventional mortgage loans with loan-to-value ratios of no more than 80% and maturities of no more than twenty-five years. Such loans have been permitted to equal up to 70% of time and savings deposits.¹³

During 1965 the Federal Home Loan Bank Board placed ceilings on returns to savers paid by federally-chartered associations which took part in plans permitting different returns on various accounts. Prior to this time savings and loan associations had been generally free from restrictions on returns to savers.¹⁴

Another important factor in improving the competitive position of commercial banks was the relative decline in home mortgage interest rates during the period 1955 to 1965. As shown in Table 5, interest rates on home mortgage loans, especially conventional home mortgage loans, declined relative to interest rates in general during this period, which greatly aided commercial banks in the price competition for savings.

Also of importance is the fact that commercial banks began to accept greater credit risks during the second postwar decade. This acceptance is

TABLE 6

PERCENT OF FINANCIAL ASSETS OF COMMERCIAL BANKS AND
SAVINGS AND LOANS IN MAJOR ASSET CATEGORIES
AT YEAR END, SELECTED YEARS

	1955	1958	1961	1964
Commercial Banks*				
Member Bank Reserves	10.8	9.4	8.1	6.9
Interbank Deposits	8.2	7.9	7.0	5.8
U.S. Government Securities	31.5	30.1	26.4	20.5
State and Municipal Bonds	6.3	7.2	7.8	10.3
Corporate Bonds	.8	.6	.3	.3
Loans	38.9	41.4	46.3	51.8
Bank Loans, n.e.c.	21.0	22.4	24.8	27.4
Mortgage Loans	10.3	11.0	11.6	13.4
Federally-Supported	6.5	6.7	6.8	7.6
Conventional	3.8	4.3	4.8	5.8
Consumer Credit Loans	6.5	6.9	8.2	9.0
Other Loans	1.1	1.1	1.7	2.0
Security Credit	2.5	2.0	2.4	2.6
Miscellaneous Financial Assets	.9	1.2	1.7	1.7
Savings and Loan Associations*				
Demand Deposits and Currency	3.7	3.3	2.6	2.3
U.S. Government Securities	6.6	7.6	6.9	6.4
Loans	84.6	84.1	85.1	86.0
Mortgage Loans	83.3	82.7	83.8	84.9
Federally-Supported	19.9	16.7	13.7	9.6
Conventional	63.4	66.0	70.1	75.3
Consumer Credit Loans	1.3	1.4	1.3	1.1
Miscellaneous Financial Assets	5.0	5.1	5.4	5.2

Source: The National Banking Review, December, 1966, 189.

*Board of Governors of the Federal Reserve System, Flow of Funds, Assets and Liabilities, 1945-65.

reflected in Table 6. The percentage of assets in loans, where credit risk is generally higher than for other bank assets, increased from 38.9% in 1955 to 51.8% in 1964.

All of the foregoing discussion, of course, leaves out the one most important factor that has aided banks in their quest for a larger share of time and savings deposits -- the advent of the negotiable certificate of deposit.

The Certificate of Deposit

In February, 1961, the First National Bank of New York City announced that it would henceforth issue interest bearing, negotiable, and marketable time certificates of deposit (the CD). Other large banks throughout the system quickly followed suit.¹⁵ This was the beginning of an attempt by the system to attract some of the short-term corporate funds that otherwise would be invested in U.S. Treasury discount bills, federal agency issues, prime finance and industrial commercial paper, bankers' acceptances, and other short-term securities. Their purpose was to regain some of the deposits they had lost to nonbank financial institutions during the 1950's and to increase their lending potential.¹⁶

Originally, most of the major money market banks attempted to limit their certificates of deposit to million dollar denominations, and the dealers in the secondary market still generally confine their trading to million dollar units. As time passed, however, many large banks offered CDs in denominations of \$500,000. Smaller banks may issue CDs for \$100,000 or less. It is generally felt that these relatively high dollar limits discourage any possible large-scale shifts out of demand deposits. Any funds available in these amounts, over and above the customer's operating requirements, have probably already found employment in the short-term securities markets.¹⁷

There are a number of reasons why commercial banks began to issue CDs in the 1960's. For one thing it offered a way for a bank to raise its deposits. Traditionally, the deposit structure was considered to be beyond the control of bank management.¹⁸ The CD made it possible for bank management to have some measure of control over not only the bank's deposit structure but deposit totals as well. In this way the issuing bank's lending power would be enlarged. Of course, the availability of reserves for the system as a whole is essentially determined by Federal Reserve policy. The individual banker

could anticipate, however, that the offering of CDs would enlarge his share of total reserves by attracting a larger share of total deposits.

The offer of CDs also represented an attempt by commercial banks to increase the stability of deposits.¹⁹ Deposits had become increasingly subject to wide fluctuations as bank customers (especially corporate money managers) became more adept in the methods of "scientific" cash management. It was felt that the money market character of the CDs would enable banks to compete for the interest-sensitive funds that corporations, state and local governments, and other public bodies were putting into the short-term securities markets. The time deposit funds thus acquired would become available for bank use during the life of the CD, thereby providing a relatively stable pool of funds which would permit the extension of loan and investment maturities.

Of course, the most important reason for issuing CDs was to stop the flow of savings deposits out of the commercial banking system into nonbank financial institutions. According to one banking authority:

Without the right to compete equitably with nonbanking institutions, banks would suffer from a terrific handicap placed upon them by a onesided set of rules. ...

As multi-lenders, commercial banks must retain this ability to compete for the customer's savings if we are expected to serve his borrowing requests -- and fulfill the country's demand for maximum economic growth and flexibility.²⁰

On the other hand there are critics of certificates of deposit that maintain that bank efforts to retain customers' demand deposits have been seriously complicated by the development of this instrument. Some of the critics even suggest that the entire total of certificates of deposit represents a diversion of their customers' balances from interest-free demand deposits to interest-earning time certificates.²¹ There no doubt were some corporate treasurers in the early 1960's who had not thought of investing their surplus funds until they learned of CDs. To the extent that there were such treasurers in corporations here and there, the tendency toward the more efficient management of corporate cash was perhaps accelerated by the advent of the CDs. However, the total amount of demand deposits affected probably has been minimal and, in any case, it should be assumed that even in these cases the corporation ultimately would have learned that it is possible to earn money by investing surplus funds. E. Sherman Adams, Vice President of

the First National City Bank of New York City, had the following to say on this subject: "For the most part, these are funds which, but for the CD innovation, would not be in the banking system today, but would be invested in other short-term money market instruments."²² The growth of the banking system after 1960, as shown in Table 3, and the halt in the flow of funds out of the banking system, as shown in Table 4, would certainly seem to confirm this conclusion.

Thus far we have ignored one important point: the maximum interest rates at which CDs may be issued are fixed by the Board of Governors of the Federal Reserve System under Regulation Q.²³ As rates on alternative short-term instruments increase and reach Regulation Q limits, commercial banks could be priced out of the market. As this occurred, outstanding certificates would be redeemed at maturity as depositors sought more attractive rates elsewhere. As the reader is aware, this situation did in fact confront commercial banks several times during the 1960's. Prior to 1966, each time interest rate levels on short-term securities comparable to CDs approached Regulation Q limits, the Federal Reserve raised the legal rates payable on CDs.²⁴ On December 6, 1965, Regulation Q maximum limits were raised to 5½% for CDs maturing in 30 days or more as

rates continued to rise. But then, when short-term returns on other instruments went above 6% before the middle of 1966, the Fed stood pat, and the collision occurred.²⁵ Herald S. Taylor related what happened at Morgan Guaranty Trust in New York:

As many maturing CDs were rolled over as was possible, new domestic sources of demand and time deposits were sought out, deposits at foreign branches were increased, Eurodollars were borrowed, federal funds were bought, the bank went to the Fed's discount window, securities were bought and sold, and term loans were reduced or limited. Almost every conceivable step was taken by the bank to get by the crisis.²⁶

Needless to say, Morgan Guaranty and the rest of the banking system did weather the storm,²⁷ but this experience pointed out a serious problem that commercial banks must face. A commercial bank can not be sure that it will be able to reissue certificates of deposit as they mature.

Of course, this discussion applies equally well to other time deposits held by commercial banks, which are subject to Regulation Q. Although there are no precise data available, small, non-negotiable time certificates of deposit have also grown rapidly during the 1960's. Between the end of 1960 and the end of 1968 total time deposits held by the commercial

banking system increased from 24.1% of total assets to 38.1% of total assets. Large negotiable CDs accounted for 57.1% of this increase, and amounted to 8.0% of the total assets of the system at the end of 1968.²⁸ Thus, other types of time deposits accounted for 42.9% of the growth in total time deposits, further threatening a bank's ability to remain solvent as interest rates in the market clash with Regulation Q limits. Most bankers have come to realize that by investing funds from time deposits in securities or loans that mature at about the same time as the time deposits, they can hedge against a "liquidity crisis" in their bank. But this is a problem for others to deal with.

The point to be made from this discussion is that the large volume of certificates of deposit issued during the 1960's -- more than twenty-three billion dollars worth in denominations of \$100,000 or more at the end of 1968²⁹ -- has resulted in an increased cost of funds for the banking system as a whole.³⁰ As a result commercial bank holdings of liquid assets declined substantially throughout the 1960's, as bank holdings of U.S. Government securities declined to less than 13% of total assets in 1968.³¹ At the same time commercial bank holdings of loans --

generally the most risky of bank assets -- increased substantially. In the first section of this chapter we learned that commercial banks held about 35% of their assets in loans at the end of 1954 and about 45% in loans at the end of 1961. By the end of 1968, commercial banks held more than 56% of their assets in loans.³² If commercial banks have been able to assume so much more risk and at the same time greatly decrease their holdings of liquid assets, the question might well be asked whether or not commercial banks needed so much liquidity in the first place. The answer to this question must wait until the next chapter.

Bank Debentures and Capital

The use of senior securities by commercial banks dates back to the early 1930's. The Emergency Banking Act of 1933 authorized the Reconstruction Finance Corporation to purchase preferred stock and debentures issued by commercial banks as an emergency measure to aid distressed banking institutions. As a result, more than 7,000 commercial banks sold senior securities to the RFC. Despite their widespread use, however, bankers retired these senior securities as quickly as possible due to the stigma of "distress financing" associated

with their issuance. By the mid-1950's very few commercial banks had any senior securities outstanding, and until recently Federal regulatory agencies and most state banking authorities denied requests to issue senior securities if common stock could be sold.³³

Despite this background, the Commission on Money and Credit, in its report of 1961, recommended the exploration of two suggestions -- bank authorization to issue debentures subordinated to the claims of depositors, and issuance of preferred stock. Following this report, in 1962, the Advisory Committee on Banking to the Comptroller of the Currency reported that "there is no sound reason why national banks should be deprived of any legitimate capital-raising method that is available to corporations generally."³⁴ As a result, on December 28, 1962, the Comptroller of the Currency published new rulings permitting national banks to issue convertible or non-convertible capital debentures, subject to his approval.³⁵ At the time of the ruling there was \$21,000,000 worth of bank debentures outstanding. By the middle of 1966 there had been 26 public offerings of debentures with a face value of \$1,135,000,000, plus a substantial but unknown amount of direct placements.³⁶

In a 1966 study on the use of subordinated debentures by banks³⁷ it was found that in 63% of

the cases an existing capital deficiency was the main reason advanced for issuing debentures. Accelerated deposit and loan growth had simply outstripped the ability of these banks to increase capital adequately through retained earnings. Nevertheless, the arrival of this method of financing was received with something less than enthusiasm in some quarters. The Board of Governors of the Federal Reserve System, for one, expressed strong disapproval over the use of subordinated debentures by commercial banks.³⁸

Opponents of subordinated debentures cite the long-term fixed costs associated with debt securities as their principal objection. It is argued that bank management will be under pressure to earn more than the fixed rate on the debentures and, as a result, the quality of bank credit will deteriorate as credit requirements on loans and the quality requirements on investment portfolios are lowered to obtain higher yields.³⁹ It is also argued that the widespread use of bank debentures during times of prosperity eliminates the safeguard of their use during a period of great stress. According to one author:

The general enthusiasm for debt is being overdone. The use of debt has become fashionable, very "In" in contemporary corporate life. Every business school graduate, keenly aware

of the uses of leverage and the tax deductability of interest, now looks critically at a debt-free capital structure. ...

Because debt is suitable for corporate capital structures generally, it is not axiomatic that it is suitable for commercial banks.⁴⁰

Nevertheless, the use of subordinated debentures offers some significant advantages to the issuing bank and its customers.⁴¹ For example, the issuance of capital notes and debentures avoids dilution of stockholders' equity. In addition, the interest cost of the debt is deductible.

One important advantage is that because debentures have fixed maturities, there is not as great a liquidity need for secondary reserves as there would be in time deposits. For the same reason a bank may invest these funds in longer-term, higher-yielding assets. (It should be pointed out that it might be wise for the bank to invest in assets which would mature at times appropriate for the servicing of this long-term obligation.)

Subordinated debentures have several advantages that relate directly to bank customers. For depositors, these debt instruments are clearly subordinate to their deposits. Other things such as asset holdings being equal, a depositor is more secure in a bank which has

the larger capital accounts in relation to total assets. Borrowers from a bank with a larger capital base may find that such a bank is more "aggressive" in its lending policies. A bank with a smaller capital base is likely to hold more of its assets in a more liquid form than loans. Lastly, the successful use of debt capital will enhance profitability, and this may encourage banks (or force them through competition) to pass on part of these savings to their customers.⁴²

Stockholders also benefit from the use of debentures, as a bank's issuance of debt capital (as previously mentioned) enables it to secure additional capital without diluting the stockholders' equity. If management is able to use these new funds effectively, it should add to the earnings potential of the common stock.⁴³ Of course, it is possible that a bank may fail to use such funds efficiently and thus reduce the return on shareholders' equity. But this suggests a management which has failed to acquire suitable assets with its new capital. Such a situation could occur, but it assumes poor management, and this can occur even without senior securities in a bank's capital structure.

Commercial banks have the option of offering debentures either as a straight debt issue or as an

issue that is convertible into common stock. About one-third of the amount of debentures offerings since 1962 have been convertible issues.⁴⁴ The principal advantage of a convertible issue versus a straight issue is that a lower coupon rate can be obtained on the convertible issue (other things equal).⁴⁵ In addition, the convertible issues may present no refinancing problems and require no sinking fund payments. If capital is raised by selling convertible debentures, and the anticipated deposit growth occurs, then earnings, dividends, and the price of the common stock will rise also. The price increase of the stock will cause the bonds to be converted, and the bank is in a position to go to the debenture market for still more capital if it is needed. If the anticipated growth does not occur the price of the stock is not likely to rise, the debentures will not be converted, and redundant capital is avoided.⁴⁶

Actually, however, this is no advantage compared with straight debenture financing. A bank can get the same results (at a somewhat higher cost) by selling straight debentures and eventually replacing it with common stock when the price of the bank's stock is presumably higher. Straight debentures also enable a bank to postpone the sale of equity until it considers

the time appropriate, without making an advance commitment as to price. Also, the use of straight debentures allows the bank the option of preplacing the debt with retained earnings, or with other debentures.⁴⁷ In the final analysis, each individual bank must decide which type of offering best suits its particular needs.

The use of debentures by commercial banks results in a reduction of the borrowing power of the issuing bank, as commercial banks are limited as to the amount that they can borrow.⁴⁸ This means that a possible source of liquidity during bad times -- borrowing -- is decreased for a bank that issues debentures. Add this to the fact that commercial bank holdings of liquid assets have declined considerably during recent years and it seems even more obvious that commercial banks were overstocked with liquidity prior to the 1960's. This would imply that secondary reserves of commercial banks did not really perform their primary functions of protecting against deposit declines and providing for increased loan demand in the past. If commercial banks can operate today without so many liquid assets in their portfolios, they certainly could have done so prior to the 1960's. Or so it would seem.

The Need for Liquidity

We have seen that the tremendous growth in commercial bank resources during the 1960's has been the result of a number of factors. Supervisory restrictions were relaxed, as rate ceilings were moved up and capital requirements were liberalized. Increased competition from nonbank financial institutions brought about the advent of the negotiable time certificate of deposit. In addition, the asset growth was dominated by the expansion of loans and other securities. Holdings of U.S. Government securities, on the other hand, declined materially, which appeared to signal an impairment of bank liquidity. Traditional notions that the sources of bank funds are established first and then deployed into suitable assets were severely challenged.⁴⁹

Many people, however, argue that banks have considerably less need for liquidity today than was once the case.⁵⁰ Some argue that demand deposits now consist largely of needed working balances, thus reducing the likelihood of the withdrawal of funds for hoarding or conversion into other assets. As has already been mentioned, Federal deposit insurance and advances in monetary management have almost

completely eliminated the possibility of a liquidity panic. In addition, the much greater volume of time deposits with definite maturity dates allows the portfolio manager greater knowledge as to the timing of withdrawals. To the extent that these withdrawals can be anticipated, it reduces the reliance on liquid assets to meet unexpected deposit fluctuations.

Many of those who claim that less liquidity is needed by commercial banks today are very critical of past bank management, which emphasized that secondary reserves were the only source of liquidity.⁵¹ Relying on secondary reserves as the only source of liquidity, it is argued, was exceedingly crude and so over-conservative that strict observance would have prevented banks from adequately performing their main function of meeting credit-worthy loan demands of the community. In addition, it completely ignores the dominant cause of deposit reduction -- the contraction of loans. (The fallacy of this argument is obvious. It is true that deposit reduction for the system is the result of loan contraction in the system, but this is not necessarily true for the individual bank. In fact, as was mentioned in Chapter I, the opposite is more likely to be true for many banks, with peak loan demands coming at a time when deposit balances are

lowest.) Another fault of the method is that it contemplates the possibility of currency hoarding and massive shifts of deposits among banks -- as occurred in 1931-1933 -- as a basis for liquidity needs for individual banks. Banking reforms since the depression, however, have developed strong safeguards against a general breakdown of confidence in banks.

Along with the criticism, of course, a new "theory" has sprung up, which might be called the Liabilities Management Theory.⁵² This theory did not discard asset management, but the emphasis shifted markedly toward liability management. According to this theory, it is not necessary to observe traditional standards in regard to self-liquidating loans and liquidity reserves, since reserve money can be borrowed or "bought" in the money market whenever a reserve deficiency is experienced. There are several possible sources from which a bank may acquire funds by the creation of additional liabilities: the acquisition of demand deposits; issuance of time certificates of deposit; purchase of Federal funds; borrowing at the Federal Reserve Bank; issuance of short-term notes; raising of capital funds from sale of

debentures, preferred stock, or common stock, or from retained earnings; and the Eurodollar market.⁵³ We will consider these sources of funds one at a time.

The acquisition of demand deposits as a source of liquidity may be summarily dismissed. The competitive redistribution of existing demand deposits (on which interest is prohibited) among banks is a continuous process, with some gaining and others losing. An individual bank may attract additional demand deposits through advertising or offering more services to depositors. Such efforts, however, would require too much time to have any effect on a bank's current liquidity needs. In addition, competitor banks may offset such action through adjustments in their own operations. Bank management cannot count on this source of funds whenever funds are needed.

The CD, of course, has been the predominant liability source of funds for the banking system since the early 1960's. However, a strong limitation on CDs as a dependable source of liquidity during boom conditions is the fact that the Federal Reserve controls the maximum rates payable on such instruments. The experience of the summer of 1966 makes this point quite clear. Certificates of deposit are no more dependable as a source of reserve money than the disposition of the

Federal Reserve Board to lift the rate ceiling as interest rates in general are rising. Another limitation is the fact that banks must compete strongly among themselves for existing funds in boom periods when it is scarce. Also, it is almost certain that the Federal Reserve will implement a monetary policy of restraint during such a period. In other words, the banker who would place heavy reliance on CDs as a source of funds must realize that during boom periods he will be competing with other banks for a stock of reserves that will be restricted, or even reduced, by the Federal Reserve authorities.

The third source from which the individual bank may acquire funds in the purchase (borrowing) of Federal funds. The great bulk of Federal funds is loaned on a one-day, unsecured basis. Banks also utilize repurchase agreements under which the borrowing bank actually sells U.S. securities under contract to buy them back in one or more days at a predetermined price.⁵⁴ The Federal funds market does not qualify, except in a minor way, as a source of liquidity for the individual bank because of its very short-term features, and from the probable unavailability of funds at reasonable rates during boom periods when they are most needed.

In practice, borrowing from a Federal Reserve Bank predominantly takes the form of a renewable promissory note for 15 days or less secured by U.S. securities. Other forms of borrowing (though seldom utilized) are the discounting of eligible paper consisting of customer notes with remaining maturities not in excess of 90 days and the proceeds of which were used for working capital purposes, and a promissory note with a maximum maturity of 4 months and secured by any satisfactory bank notes.⁵⁵ Federal Reserve credit, however, is generally granted as a privilege, rather than a right, to meet day-to-day and seasonal liquidity needs of member banks. Ordinarily, borrowing for longer-term purposes, including cyclical loan expansion, is not regarded as appropriate. Thus, borrowing at the Federal Reserve Bank does not appear to be a dependable source of liquidity for commercial banks during periods of expansion. This source of liquidity should be used primarily for short-term requirements, including emergency and seasonal needs.

The fifth source from which a bank may acquire funds is the issuance of unsubordinated, short-term, promissory notes. The First National Bank of Boston was the first to issue such securities in September of 1964.⁵⁶ These notes offered significant advantages over CDs, as they

were not classified as deposits, and thus were not subject to maximum rate regulation (Regulation Q). They were instead classified as borrowed funds, and not subject to either legal reserve requirements or to deposit insurance assessments (they were, of course, subject to the usual legal restrictions on borrowings). However, the banking law of New York was interpreted to bar the issuance of such notes, thus the money-market banks of New York City were excluded from the market. Also, in June of 1966 the Board of Governors of the Federal Reserve System ruled that such notes, whether negotiable or non-negotiable, would henceforth be subject to the regulations governing reserve requirements and payment of interest on deposits.⁵⁷ The result was that the advantages of such notes over CDs were erased, and their effects on the money market becomes identical with that pertaining to CDs: they are not a dependable source, except to a limited extent, to meet the liquidity needs of a bank during boom periods.

The sixth source from which a commercial bank may acquire funds is by raising capital funds. The issuance of preferred stock may be dismissed because of its insignificance in the banking field, and also because of the depressed level of preferred stock prices during periods of high interest rates. As for retained earnings,

dependence on this source would not seem to be practical. In periods of increased earnings stockholders expect higher dividends instead of a reduction. The sale of common stock also may not be practical. Bank stock prices may be depressed by the high interest rates associated with boom conditions. Also, banks are often reluctant to issue more common stock because of dilution of earnings and because of control considerations. High interest rates associated with boom conditions also limit the possibility of issuing debentures for cash needs (as well as the borrowing limits placed on commercial banks). However, this does not preclude the use of such instruments during earlier stages of an economic expansion, when debentures may well be an important source of funds. However, raising capital funds at any time cannot be considered to be a source of liquidity as such to a commercial bank. A bank would hardly have time to issue an offering of debentures to meet a current demand for funds. The raising of capital funds, however, may reduce the overall need for liquidity, in that, on the average, more funds would be available to the issuing bank.

A final possible source of funds for commercial banks is the Eurodollar market. This market deals in interest-bearing time deposits, denominated in dollars, on the books of large foreign banks. Eurodollars originate

when the holder (usually a foreign bank or firm) of a demand deposit in an American bank transfers funds to a foreign bank with instructions to open a Eurodollar account. This leaves the foreign bank with a new liability in the form of a time deposit and a counterpart deposit asset on the books of the American bank. Having a claim on dollars, the foreign bank is then in a position to make loans to others who wish to borrow dollars -- whether they be foreign business firms or American banks.⁵⁸

Borrowing in the Eurodollar market by a U.S. bank does not represent a net addition to the reserves of the banking system. This follows from the fact that Eurodollars have demand deposit counterparts on the books of U.S. banks. A change in ownership of a Eurodollar time deposit from one foreign owner to another brings about a corresponding shift of U.S. demand deposits from one bank to another. Nevertheless, such borrowing may be a source of short-term liquidity for an individual bank. However, it is not an appropriate source of liquidity for any bank below the tier of large money market institutions. Dealings are in wholesale lots with a minimum of one million dollars, with most single transactions in tens of millions.⁵⁹ Direct access to this market is beyond

the reach of small and medium-sized banks, but the Eurodollar market is, within limits,⁶⁰ an appropriate source of liquidity for a large money market bank.

Thus, overall it would appear that the management of bank liabilities deserves a somewhat limited role in a bank's total liquidity program. The management of liabilities appears best adapted to meeting short-term liquidity needs, particularly during boom periods. It would appear, then, that individual banks must still rely on the management of their assets to provide for adequate liquidity.

In spite of all this, the experience of the 1960's shows that the management of liabilities has come to play an important part in commercial bank operations and policies. Through the careful management of its liabilities a bank may be able to avoid the need for as much liquidity as it would otherwise require. This could well explain the decreased level of liquid assets held by the banking system during the 1960's. Whether or not commercial banks in fact determine the level of their secondary reserves according to their needs has yet to be answered. This is the subject for the next chapter.

Conclusions

In this chapter we have found, first of all, that changes in bank holdings of U.S. Government securities prior to 1961 could be closely identified with major changes in Federal Reserve monetary policy. After 1961, however, holdings of U.S. Government securities declined sharply while total assets increased at a rapid rate. Time deposits also grew very rapidly after 1961, as did bank loans.

Second, we found that nonbank competition resulted in the loss of time deposits by the banking system throughout the 1950's. Thereafter, however, the trend was reversed as commercial banks began to compete more effectively because of competitive and regulatory changes and the advent of the time certificate of deposit.

Third, it was discovered that CDs offered banks some measure of control over deposits, tended to increase the stability of deposits, and allowed banks to bring more usable funds into the system. However, their use is limited because of Regulation Q, which could be a serious limitation on the use of such instruments in the future.

Fourth, the large volume of time deposits outstanding during the 1960's tended to increase the cost of funds to the system. As a result, banks increased their holdings

of loans and less liquid assets, which implies that they did not need as much liquidity as they previously had held.

Fifth, commercial banks began to use debentures as a source of capital during the 1960's. These instruments are subordinated to deposits and have the advantage of avoiding dilution of stockholders' equity while allowing more capital to be raised to meet increased needs. However, the use of debentures results in the reduction of a commercial bank's borrowing power, which further reduces its liquidity.

Sixth, it was found that there is reason to believe that commercial banks need less liquidity than they did in the past. It is argued that demand deposits tend to be more stable. advances in money management have made the occurrence of a liquidity crisis extremely unlikely, and CDs have definite maturities, making for more stable deposits. The careful management of liabilities may enable a bank to avoid the need for as much liquidity as it would otherwise require.

Seventh, we concluded that although the management of liabilities has come to occupy an important role in commercial bank operations, banks still must rely on asset management (the establishment of a secondary reserve) to provide for most of their liquidity needs.

Whether or not banks determine the size of their secondary reserves according to their needs is a question that has not yet been answered.

Notes

1. A breakdown of the assets of large commercial banks in the Federal Reserve System is available in the Federal Reserve Bulletin, however, the breakdown is not complete, nor does it account for all of the banks in the system.
2. "Principal Assets and Liabilities and Number, by Class of Bank," Federal Reserve Bulletin (January, 1969), A 19.
3. The Federal Reserve uses certain forms (FR 360) in their bank examinations in which a detailed breakdown of the bank's liquid assets are tabulated. The Federal Reserve sent this author a number of these forms (dating back to 1955) in which the assets of the "Average Insured Commercial Bank" were tabulated. These forms show that U.S. Government securities are by far the major element in commercial bank holdings of liquid assets (assets eligible for the secondary reserve). On December 31, 1960, for example, U.S. Government securities accounted for 94.0% of the liquid assets of the "average" insured bank.
4. For a detailed discussion of monetary policy in the United States since 1951 see Paul B. Trescott, Money, Banking, and Economic Welfare (New York: McGraw-Hill, 1965), 478-512.
5. Ibid.
6. "All Banks in the United States, By Classes, Principal Assets and Liabilities, and Number of Banks," Federal Reserve Bulletin (July, 1955), 775, and (January, 1962), 53.
7. See Note 4 of this chapter.
8. Paul S. Nadler, "Why Banking is Changing," Banking, LVI, No. 6 (December, 1963), 47.
9. Ibid. Also see Mary T. Mitchell, "New Yardsticks in Measuring Bank Competition for Demand Deposits," The Bankers Magazine, 149, No. 3 (Summer, 1966), 37.
10. E. Sherman Adams, "Commercial Banking in Perspective," The Bankers Magazine, 148, No. 3 (Summer, 1965), 72.

11. Jack R. Vernon, "Competition for Savings Deposits: the Recent Experience," The National Banking Review, 4, No. 2 (December, 1966), 185.
12. Ibid., 186.
13. Ibid.
14. Ibid., 187.
15. Herbert Bratter, "CDs a Problem for the Fed," Banking, LVIII, No. 8 (February, 1966), 39.
16. Baughn and Walker, op. cit., 669-70.
17. "Certificates of Deposit," Federal Reserve Bank of New York, Monthly Review, 45, No. 6 (June, 1963), 83-84. Also see Tilford C. Gaines, "Certificates of Deposit Reappraised," The Bankers Magazine, 147, No. 1 (Winter, 1964), 35.
18. Baughn and Walker, op. cit., 610.
19. Fieldhouse, op. cit., 82. Also see "The Fed Holds a Tiger by the Tail," Business Week, No. 1923 (July 9, 1966), 62.
20. "Savings Certificates Attacked, Defended," Bankers Monthly, LXXVIII, No. 6 (June 15, 1966), 20.
21. Gaines, op. cit., 38.
22. Adams, op. cit., 73.
23. Baughn and Walker, op. cit., 670.
24. Ibid., 612. Also see Gaines, op. cit., 38.
25. Harold S. Taylor, "The Summer the Bankers Lost Their Cool," The Bankers Magazine, 150, No. 3 (Summer, 1967), 10.
26. Ibid., 11.
27. For a complete discussion of the liquidity crisis of 1966 see the reference in Note 24.
28. Federal Reserve Bulletin (January, 1969), A 29.

29. Ibid.
30. Fieldhouse, op. cit., 87.
31. See Table 1.
32. "Principal Assets and Liabilities and Number, by Class of Bank," Federal Reserve Bulletin (January, 1969), A 19.
33. Edward J. Mock, "Banks Find New Ways to Raise Capital," Banking, LVII, No. 5 (November, 1964), 58.
34. Cited by Paul F. Jessup, "Bank Debt Capital: Urchin of Adversity to Child of Prosperity," The Bankers Magazine, 148, No. 3 (Summer, 1965), 42.
35. Ibid., 43.
36. Eugene F. Brigham and Michael Kawaja, "The Use of Convertible Debentures in Commercial Bank Financing," The Bankers Magazine, 150, No. 4 (Autumn, 1967), 26-27.
37. See E. A. Conforti, "Results of a Survey on Debt Financing by Banks," Burroughs Clearing House, 52, No. 7 (April, 1968), 28-29, 72-78.
38. Martin Kern, "A Critical Look at Capital Notes," Banking, LVIII, No. 5 (November, 1965), 50.
39. Mock, op. cit., 60.
40. Kern, op. cit., 50-51.
41. For a full discussion of the advantages of the use of debentures, see Jessup, op. cit., 40-54. Also see Mock, op. cit., 47, 58-62.
42. Jessup, op. cit., 51.
43. Ibid., 52.
44. Brigham and Kawaja, op. cit., 26-27.
45. Ibid., 31.
46. Ibid.

47. Stanley Silverberg, "Bank Debenture Financing: A Comparison of Alternatives," The National Banking Review, 3, No. 1 (September, 1965), 49.

48. Jessup, op. cit., 43.

49. For a complete discussion of this subject see F. Lee Jacquette, "The Bank Liquidity-Profitability Tightrope," The Bankers Magazine, 150, No. 2 (Spring, 1967), 94-100. Also see J. L. Robertson, "The Changing World of Banking," Banking, LVII, No. 9 (March, 1965), 45, 122.

50. For example, see Adams, op. cit., 71-77. Also see Baughn and Walker, op. cit., 609-20.

51. For example, see Jacquette, op. cit. Also see G. Walter Woodworth, "Bank Liquidity Management: Theories and Techniques," The Bankers Magazine, 150, No. 4 (Autumn, 1967), 68-78.

52. See Robertson, op. cit.; and Woodworth, op. cit., 66-78. Also see Baughn and Walker, op. cit., 610-12.

53. See Woodworth, op. cit., 66-78.

54. Ibid., 73.

55. Ibid., 74.

56. Ibid., 74.

57. Ibid., 75.

58. Ibid., 78.

59. Ibid., 77-78.

60. Ibid.

CHAPTER III

THE SECONDARY RESERVE IN REALITY

The Sample

In order to develop a sample setting forth the liquid asset holdings of a reasonably large number of commercial banks, it is first of all necessary to have access to the detailed records of a large number of individual commercial banks. Obtaining such records proved to be a difficult task, as detailed records of individual commercial bank asset holdings are not available to the general public. Most commercial banks do publish a yearly balance sheet (on December 31) showing major asset and liability categories. However, data from this source are too general to be of much use, and since bank management has plenty of time to prepare for such statements, the possibility of "window-dressing"¹ casts doubt on the validity of any conclusions that might be drawn from an examination of such data.

At the present time all United States banks are subject to examination at any time by one supervisory authority or another.² National banks are examined by the Comptroller of the Currency, state banks are examined by state supervisors, member banks are examined by the Federal Reserve, and insured banks are examined by the FDIC. Since examinations by the authorities may come at

any time, the examiners reports on a number of commercial banks would be an excellent source of data which could be expected to yield a true picture of individual bank asset holdings. With this in mind, the author contacted the Federal Reserve, the FDIC, and the Comptroller of the Currency, requesting certain information³ from the examination reports of a number of commercial banks in order to obtain a sample of the liquid asset holdings of a representative number of commercial banks. All three authorities informed this author that all information in their examiners' reports was highly confidential and could not be released for any purpose.

Having thus ruled out these three sources of information, which would have made it possible to obtain a sample of banks spread across the country, the author made the same request to the Banking Commissioner's office in the State of Florida.⁴ Again it was explained that examiners' reports are confidential. However, the State Banking Commissioner keeps the call reports⁵ from all State banks from the previous four examinations separate from the rest of the examination reports. (The call report is the basic balance sheet of the bank in the examination report.) When it was revealed how the information would be used, the author was allowed access to these forms.

Call reports are sent to Florida state banks twice a year for completion. The reports are usually sent toward the middle of the year and toward the end of the year, but they may be sent at any time, and individual banks do not know when to expect them.⁶ The call reports that were made available to this author were for 1967 and 1968 -- a total of four reports for each bank. The dates on each report varied, but usually were dated toward the middle of the summer and toward the end of the year. From the files, a sample of 115 state banks were chosen at random.

It must be pointed out that this sample has a number of characteristics which place some limitations on any conclusions which might be drawn from an analysis of the data. First of all, every bank in the sample is a state-chartered, non-member bank. These banks, therefore, are not under Federal Reserve supervision. Of particular importance is the fact that primary reserve requirements are different for member banks and for Florida non-member banks. A Federal Reserve member bank, which is classified as a reserve city bank, must maintain the following in the form of cash or deposits with the Federal Reserve Bank of its district:

- (i) .3 per cent of (A) its savings deposits, open account, that constitute deposits of individuals, such as Christmas club accounts and vacation club accounts,

- that are made under written contracts providing that no withdrawal shall be made until a certain number of periodic deposits have been made during a period of not less than 3 months; plus
- (ii) 3 per cent of its other time deposits up to \$5 million, plus 6 per cent of such deposits in excess of \$5 million; plus
 - (iii) $16\frac{1}{2}$ per cent of its net demand deposits up to \$5 million, plus 17 per cent of such deposits in excess of \$5 million.⁷

If a member bank is not a reserve city bank, the requirements for savings and time deposits are the same, but the bank must keep 12% of its net demand deposits up to five million dollars and $12\frac{1}{2}$ % of such deposits in excess of five million dollars in primary reserves.⁸ A Florida non-member bank, on the other hand, must keep a primary reserve amounting to at least 20% of the aggregate amount of its deposits in the form of cash and/or bonds and securities of the United States and bonds and securities guaranteed as to principal and interest by the United States.⁹

However, even though the banks in the sample are not examined by or subject to regulation by the Federal Reserve, they are not completely different from the rest of the banking system. The Florida authorities are not likely to use standards and procedures that differ greatly from the standards and procedures in force

in the rest of the system.¹⁰ In addition, essentially all of the Florida non-member banks are also examined by the FDIC (there are 4 noninsured banks in Florida), which ensures that the Florida non-member banks conform to the standards set up by that agency.¹¹

Another limitation is the size of the banks being studied. There are no state, non-member banks in Florida which have assets in excess of \$100,000,000.¹² Therefore, very large banks are not represented at all by the data in the sample. However, the reader should realize that less than 3.4% of all the commercial banks in the United States have deposits in excess of \$100,000,000.¹³ Apart from the fact that very large banks are not represented by these data, the sample is fairly representative of the American banking system as to size. About 26% of the sample banks have assets in excess of \$20,000,000, and about 26% of all U.S. banks have assets in excess of \$20,000,000. About 35% of the sample banks have assets between \$10,000,000 and \$20,000,000, compared with a percentage of 37% for all banks.¹⁴ The percentage is similar for smaller banks. Therefore, as far as size goes, the sample is representative of in excess of 95% of all American banks.

Another limitation, which could be more serious, is the time span of the sample, which is four examination

dates over a period of two years. With a longer time span, it would be possible to follow changes in the sample bank's liquid asset holdings and compare these changes with national averages and with changes in monetary policy. A two-year time span severely limits our ability to do this. However, this assumes that there is some recognizable pattern in the data. The limitation of the time span, then, would be very severe indeed if the data in the sample tend to support the hypothesis of this paper. That is to say, if the data show that the liquid asset holdings of all or most of the banks in the sample tend to be maintained at some specific level identified as the industry standard, then such a conclusion might be subject to question because of the short time span involved. However, if the data show the opposite -- that the liquid asset holdings of the banks in the sample do not tend to be maintained at some specific level, but rather are quite diverse -- then the short time span would not be a severe limitation.

In any case, these three limitations -- the size of the banks, the classification of the banks, and the time span involved -- may serve to restrict the conclusions that can be drawn from this study. The reader should keep these points in mind as the analysis proceeds.

The call reports from which the information that is used in this study is derived separates the assets of the bank under consideration into a number of different categories. This author selected the categories that could be considered to be liquid assets and added them together for each bank and each accounting period. These "liquid asset categories" include: Cash, balances with other banks, and cash items in process of collection; United States Government obligations; Guaranteed securities of Federal agencies and corporations; and Federal funds sold and securities purchased under agreements to resell. The categories that were not included were the following: Obligations of states and political subdivisions; Other bonds, notes, and debentures; Corporate Stocks; Loans and discounts; Bank premises owned and furniture and fixtures; Real estate owned other than bank premises; Investments and other assets indirectly representing bank premises or other real estate; Customers' liability to banks on acceptances outstanding; and Other assets.

Once the liquid assets of each bank were totaled, the resulting figures (four for each bank) were divided by the total assets of the bank at the time of each

examination. This gave the holdings of the liquid assets of each bank as a percentage of total assets for each examination period. From each of these percentages 20% was subtracted, and the resulting figure gave the liquid asset holdings in excess of primary reserves (secondary reserves) of each bank as a percentage of total assets for each examination date. These are the figures that appear in Table 7, Table 8, and Table 9.

Once this was done, the 115 banks in the sample were divided into three categories according to the approximate size of their total assets. The first category, classified as large state banks, consists of banks having total assets between \$20,000,000 and \$100,000,000. There are 30 of these banks, which are numbered from 1 to 30 inclusively, as shown in Table 7. The second category, classified as medium-sized banks, consists of banks having total assets between \$10,000,000 and \$20,000,000. There are 40 medium-sized banks in the sample, which are numbered from 31 to 70, as shown in Table 8. The third category consists of small state banks which have total assets of less than \$10,000,000. There are 45 of these banks, and they are numbered from 71 to 115, as shown in Table 9.

TABLE 7

HOLDINGS OF SECONDARY RESERVES OF THIRTY LARGE STATE
BANKS* CHARTERED IN FLORIDA, 1967-1968

(As a percentage of total assets)

BANK NUMBER	SPRING 1967	FALL 1967	SPRING 1968	FALL 1968
1	24%	31%	17%	26%
2	16%	10%	13%	12%
3	11%	12%	18%	9%
4	22%	18%	30%	23%
5	5%	3%	11%	8%
6	20%	18%	20%	18%
7	5%	8%	5%	3%
8	23%	25%	29%	32%
9	30%	24%	26%	24%
10	23%	23%	24%	23%
11	46%	46%	44%	45%
12	38%	41%	37%	40%
13	29%	22%	28%	31%
14	3%	6%	4%	0%
15	16%	18%	16%	14%
16	39%	26%	24%	25%
17	22%	25%	21%	20%
18	23%	17%	23%	17%
19	13%	12%	10%	9%
20	28%	34%	---	---
21	24%	22%	25%	23%
22	12%	12%	11%	13%
23	32%	34%	27%	28%
24	33%	35%	26%	36%
25	24%	22%	22%	32%
26	19%	20%	22%	18%
27	41%	40%	45%	43%
28	20%	19%	18%	19%
29	9%	14%	5%	1%
30	31%	20%	28%	22%

Source: Derived from all reports (Form 64, State of Fla.).

*Banks having total assets between \$20,000,000 and \$100,000,000.

TABLE 8

HOLDINGS OF SECONDARY RESERVES OF FORTY MEDIUM-SIZED
STATE BANKS* CHARTERED IN FLORIDA, 1967-1968

(As a percentage of total assets)

BANK NUMBER	SPRING 1967	FALL 1967	SPRING 1968	FALL 1968
31	47%	57%	51%	45%
32	21%	20%	29%	21%
33	15%	17%	20%	19%
34	22%	21%	26%	27%
35	27%	25%	27%	32%
36	32%	31%	35%	27%
37	11%	11%	9%	10%
38	21%	21%	23%	24%
39	2%	1%	6%	1%
40	32%	36%	31%	31%
41	21%	17%	28%	25%
42	27%	23%	31%	28%
43	28%	25%	16%	26%
44	21%	22%	25%	19%
45	16%	22%	22%	13%
46	0%	1%	14%	6%
47	8%	9%	9%	7%
48	25%	24%	29%	27%
49	16%	14%	27%	22%
50	32%	33%	44%	42%
51	29%	35%	29%	26%
52	26%	24%	22%	23%
53	13%	6%	6%	7%
54	21%	25%	20%	23%
55	20%	20%	20%	19%
56	18%	12%	28%	23%
57	44%	52%	47%	51%
58	21%	18%	---	---
59	41%	36%	45%	44%
60	30%	25%	28%	25%

TABLE 8 (Continued)

BANK NUMBER	SPRING 1967	FALL 1967	SPRING 1968	FALL 1968
61	12%	17%	16%	13%
62	15%	9%	17%	15%
63	39%	37%	37%	38%
64	15%	2%	5%	4%
65	23%	20%	23%	21%
66	45%	35%	43%	36%
67	11%	16%	18%	14%
68	30%	26%	27%	24%
69	10%	17%	12%	18%
70	30%	30%	29%	30%

Source: Derived from call reports (Form 64, State of Fla.).

*Banks having total assets between \$10,000,000 and \$20,000,000.

TABLE 9

HOLDINGS OF SECONDARY RESERVES OF FORTY-FIVE SMALL
STATE BANKS* CHARTERED IN FLORIDA, 1967-1968

(As a percentage of total assets)

BANK NUMBER	SPRING 1967	FALL 1967	SPRING 1968	FALL 1968
71	25%	20%	24%	28%
72	31%	32%	26%	26%
73	38%	36%	36%	39%
74	27%	26%	29%	31%
75	21%	23%	21%	22%
76	30%	38%	24%	23%
77	29%	33%	26%	25%
78	9%	14%	12%	14%
79	4%	3%	8%	9%
80	11%	10%	17%	13%
81	44%	30%	42%	45%
82	38%	35%	34%	33%
83	34%	34%	28%	32%
84	38%	27%	35%	20%
85	34%	36%	38%	39%
86	24%	19%	22%	19%
87	14%	7%	20%	18%
88	45%	45%	48%	50%
89	38%	38%	35%	38%
90	47%	39%	48%	37%
91	60%	65%	61%	61%
92	22%	20%	20%	18%
93	37%	39%	40%	34%
94	56%	55%	53%	47%
95	63%	65%	61%	60%
96	41%	40%	41%	34%
97	42%	47%	37%	39%
98	32%	31%	37%	35%
99	27%	25%	29%	28%
100	14%	22%	6%	33%

TABLE 9 (Continued)

BANK NUMBER	SPRING 1967	FALL 1967	SPRING 1968	FALL 1968
101	54%	49%	51%	52%
102	24%	25%	25%	24%
103	36%	36%	35%	39%
104	38%	45%	41%	45%
105	32%	23%	29%	30%
106	23%	21%	18%	21%
107	42%	42%	42%	37%
108	41%	33%	38%	41%
109	50%	54%	58%	57%
110	6%	16%	24%	14%
111	30%	15%	20%	16%
112	39%	36%	46%	44%
113	34%	43%	34%	49%
114	25%	20%	14%	17%
115	39%	30%	28%	30%

Source: Derived from call reports (Form 64, State of Fla.).

*Banks having total assets of less than \$10,000,000.

In summary, then, Table 7 presents the holdings of liquid assets in excess of primary reserves as a percentage of the total assets of 30 large state banks chartered in Florida for the four examination periods during 1967 and 1968. The same data are presented for 40 medium-sized banks in Table 8, and for 45 small banks in Table 9. A brief look at these tables shows that there seems to be a wide diversity in the amount of secondary reserve assets held by the individual banks. For example, bank 14 held no secondary reserve assets (as defined above) during the Fall of 1968. Bank 11, on the other hand, held 45% of its assets in liquid form during the same period. Bank 91 held more than 60% of its assets in liquid form during all four accounting periods. In addition, there does not seem to be any identifiable cyclical movement in the sample banks' holdings of secondary reserves. Whether or not this diversity exists for all or most of the banks in the sample calls for a closer examination.

Classification of Data

The data from the sample of banks as presented in Table 7, Table 8, and Table 9 do not lend themselves easily to examination and analysis. For this reason

the data have been classified for each individual bank according to the approximate size of secondary reserves held as a percentage of total assets and according to the degree of fluctuation of the holdings as a percentage of total assets. These classifications are presented in Table 10, Table 11, and Table 12 for large banks, medium-sized banks, and small banks respectively. In each of these tables the number of each bank in the sample is followed by a rating for the approximate size of the secondary reserve and a rating for the degree of fluctuation of the reserve.

Each bank in the sample is ranked by a number from "1" to "5" according to the approximate size of the bank's holdings of secondary reserves as a percentage of total assets. Banks holding between 0% and 10% of their assets in liquid form are ranked "1," banks with liquid assets between 11% and 20% of total assets are ranked "2," banks with liquid assets between 21% and 30% are ranked "3," banks with liquid assets between 31% and 40% of total assets are ranked "4," and banks with more than 41% of total assets in liquid form are ranked "5." This ranking is completely arbitrary, and the author admits that there is some overlap of the ratings. The liquid asset holdings of bank 49, for example, fluctuates between 14% and 27% of total assets.

TABLE 10

SIZE AND DEGREE OF FLUCTUATION CHARACTERISTICS OF
SECONDARY RESERVES OF THIRTY LARGE STATE
BANKS* CHARTERED IN FLORIDA, 1967-1968

BANK NUMBER	SIZE OF RESERVE	FLUC- TUATION	BANK NUMBER	SIZE OF RESERVE	FLUC- TUATION
1	3	C	16	3	C
2	2	B	17	3	A
3	2	B	18	2	B
4	3	C	19	2	A
5	1	B	20	3	B
6	2	A	21	3	A
7	1	A	22	2	A
8	3	B	23	3	B
9	3	B	24	4	B
10	3	A	25	3	B
11	5	A	26	2	A
12	4	A	27	5	A
13	3	B	28	2	A
14	1	B	29	1	C
15	2	A	30	3	C

KEY

Approximate Size
of Holdings as a
Percentage of

Total Assets

Rating

0% - 10% ----- 1
11% - 20% ----- 2
21% - 30% ----- 3
31% - 40% ----- 4
41% - 70% ----- 5

Fluctuation of
Holdings as a
Percentage of

Total Assets

Rating

0% - 5% ----- A
6% - 10% ----- B
11% - 15% ----- C
16% - 30% ----- D

Source: Derived from Table 7.

*Banks having total assets between \$20,000,000 and
\$100,000,000.

TABLE 11

SIZE AND DEGREE OF FLUCTUATION CHARACTERISTICS OF
SECONDARY RESERVES OF FORTY MEDIUM-SIZED STATE
BANKS* CHARTERED IN FLORIDA, 1967-1968

BANK NUMBER	SIZE OF RESERVE	FLUC- TUATION	BANK NUMBER	SIZE OF RESERVE	FLUC- TUATION
31	5	C	51	3	B
32	3	B	52	3	A
33	2	A	53	1	B
34	3	B	54	3	A
35	3	B	55	2	A
36	4	B	56	2	D
37	1	A	57	5	B
38	3	A	58	2	A
39	1	A	59	5	B
40	4	A	60	3	A
41	3	C	61	2	A
42	3	B	62	2	B
43	3	C	63	4	A
44	3	B	64	1	C
45	2	B	65	3	A
46	1	C	66	4	B
47	1	A	67	2	B
48	3	A	68	3	B
49	2	C	69	2	B
50	4	C	70	3	A

KEY

See Table 10

Source: Derived from Table 8.

*Banks having total assets between \$10,000,000 and \$20,000,000.

TABLE 12

SIZE AND DEGREE OF FLUCTUATION CHARACTERISTICS OF
SECONDARY RESERVES OF FORTY-FIVE SMALL STATE
BANKS* CHARTERED IN FLORIDA, 1967-1968

BANK NUMBER	SIZE OF RESERVE	FLUC- TUATION	BANK NUMBER	SIZE OF RESERVE	FLUC- TUATION
71	3	B	94	5	B
72	3	B	95	5	A
73	4	A	96	4	B
74	3	A	97	5	B
75	3	A	98	4	B
76	3	C	99	3	A
77	3	B	100	2	D
78	2	A	101	5	A
79	1	B	102	3	A
80	2	B	103	4	A
81	5	C	104	5	B
82	4	A	105	3	B
83	4	B	106	3	A
84	4	D	107	5	A
85	4	A	108	4	B
86	2	A	109	5	B
87	2	C	110	2	D
88	5	A	111	3	C
89	4	A	112	5	B
90	5	C	113	5	C
91	5	A	114	3	C
92	2	A	115	4	C
93	4	B			

KEY

See Table 10

Source: Derived from Table 9.

*Banks having total assets of less than \$10,000,000.

This author ranked bank 49 as a "2," but it just as easily could have been ranked a "3" (the average holding was 19.9% of total assets). Most of the figures, however, fall well within one category or another, and every attempt was made to give a true representation of the approximate size of the holdings of each bank.

Each bank in the sample is also ranked according to the degree of fluctuation of the bank's holdings of secondary reserves as a percentage of total assets. The method of ranking the fluctuation of secondary reserves presented the author with a problem, for it is difficult to say what is a small degree of fluctuation and what is a large degree of fluctuation. The author decided to rank the banks as to the degree of fluctuation of secondary reserve holdings in the following way: banks whose holdings of secondary reserves did not vary by more than 5% of total assets during the period under review are rated "A"; banks whose holdings varied between 6% and 10% of total assets are rated "B"; banks whose holdings varied between 11% and 15% of total assets are rated "C"; and banks whose holdings varied by more than 15% of total assets are rated "D." An "A" rating indicates

that the secondary reserve holdings of the bank involved were relatively stable for the time period under consideration. A "B" rating indicates that the bank's holdings of secondary reserves fluctuated to a moderate extent. A "C" rating indicates a relatively high degree of fluctuation, and a "D" rating indicates a very high degree of fluctuation.

There are two major reasons for rating the degree of fluctuation of the banks' liquid asset holdings in this manner. The first reason is that the time period involved is quite short, extending from the Spring of 1967 until the Fall of 1968. Given this short time period, the ratings as described above seem quite reasonable. A change in a bank's holdings of liquid assets by more than 5% of total assets would seem to indicate at least a moderate degree of fluctuation. In the same light, a change in a bank's holdings of liquid assets by more than 10% of total assets would seem to indicate a relatively high degree of fluctuation. The second reason for categorizing the banks in this way is because of the nature of this study. That is to say, if there is an informal liquidity standard in the banking industry, if individual banks do try to maintain some target ratio of secondary reserves to total assets, and if banks maintain secondary reserves for some purpose

other than meeting their liquidity needs, then we would not expect banks' holdings of secondary reserves to fluctuate very much at all.

In a study such as this it is practically impossible to judge the effects that monetary policy may have had on the secondary reserve holdings of the banks in the sample during the time period under consideration. In the first place, it takes time for the effects of monetary policy to become evident. Thus, the sample might not show any immediate effects from changes in monetary policy. In the secondary place, monetary policy changed in direction several times during 1967 and 1968,¹⁵ thus negating the possibility of recognizing any cumulative effect for the entire period. This might not be too great of a problem if the hypothesis of this paper is correct. If bank secondary reserve holdings are not related to the actual needs of most individual banks, then we might expect changes in monetary policy to affect the holdings of all or most of the banks in the sample in the same way from period to period. If, on the other hand, secondary reserves are related to the individual needs of each bank, then we would not expect bank holdings of secondary reserves to fluctuate for each bank in the same way. The effects of monetary policy might be evident in the overall pattern, but some banks'

holdings would fluctuate much more than the holdings of others (degree of fluctuation is taken up in later sections of this chapter), and monetary policy lags and local considerations would presumably result in some banks' holdings of secondary reserves moving in the opposite direction from what might be expected. If we return to Tables 7, 8, and 9 for the moment, and examine the data presented there, we find that this is exactly what happens.

Monetary policy, in general terms, was expansive in the Spring of 1967, restrictive in the Fall of 1967, expansive in the Spring of 1968, and restrictive in the Fall of 1968.¹⁶ With monetary policy as a guide, and assuming no lags, we would expect commercial bank holdings of liquid assets to decrease between the Spring of 1967 and the Fall of 1967, as monetary policy moved from a period of ease to a period of tightness. For the banks in the sample, 52% decreased their holdings of liquid assets, 37% increased their holdings, and 11% did not change their holdings (as a percentage of total assets). Thus, the effects of monetary policy were evident, yet the holdings of 48% of the banks in the sample did not move in the anticipated manner.

Between the Fall of 1967 and the Spring of 1968 we would expect commercial bank holdings of liquid assets to increase, as monetary policy moved toward a period

of ease. For the banks in the sample, 50% increased their relative holdings, 39% decreased their relative holdings, and 11% did not change their relative holdings. The results are the same: the effects of monetary policy are evident but not dominant.

In the third interval, monetary policy again moved toward restriction, indicating that there should be a decrease in bank holdings of liquid assets. Once again, the sample shows the same tendency. About 56% of the banks decreased their relative holdings, 39% increased their relative holdings, and 5% did not change their relative holdings.

Finally, then, we can say that the effects of monetary policy are not clear. The data indicate that monetary policy changes affected some of the banks' holdings of secondary reserves very quickly. Many of the banks, however, seem to show no immediate effects from changes in monetary policy for the time period under review. Actually, it is impossible to tell what eventual effects monetary policy would have on the sample banks, both because of the lags inherent in monetary policy and because of the frequently changing direction of monetary policy during 1967 and 1968. Also, it is impossible to tell what any

particular bank would have done during the time span under consideration in the absence of monetary policy. It is clear, however, that monetary policy did not have any dominant immediate effects on the liquid asset holdings of the sample banks.

Secondary Reserve Characteristics of Sample Banks

In the previous section we classified each bank according to the amount of total assets, according to the relative size of secondary reserve holdings, and according to the degree of fluctuation of these holdings. We are now in a position to examine the data a little more closely. The distribution of the ratings assigned for the large banks in the sample are presented in Table 13. The banks are first of all broken down according to size, with the number of banks rated "1," "2," "3," "4," or "5" as shown at the top left of the table. Rating "3" is the largest category, accounting for 43% of the large banks in the sample. Rating "2" accounts for another 30% of the banks, and the remaining 27% of the banks are distributed among the other three categories. Thus, 73% of the large banks in the sample maintained secondary reserves of between 11% and 30% of total assets. This is not surprising, as most banks

operate under somewhat similar pressures and conditions, and we would expect some degree of similarity among the liquid asset holdings of most banks. However, there is not that much similarity, as ratings "2" and "3" combined represent a range of movement of 20% of total assets. There is certainly no indication of an industry standard (or any other kind of standard) in evidence in these data.

An examination of the degree of fluctuation in the individual large banks' holdings of liquid assets bears this out. As shown in Table 13, seventeen of the thirty banks -- 57% -- had liquid asset holdings that fluctuated by more than 5% of total assets, which indicates that the large banks in the sample varied their secondary reserve holdings in accord with local considerations and individual needs.

When the ratings for the size and fluctuation of secondary reserves are combined -- the bottom half of Table 13 -- there is still no evident pattern that would indicate that individual large banks do not adjust their secondary reserve holdings to their own needs. Of the large banks rated "2" or "3" as to size (73% of the total), the secondary reserve holdings of 41% were relatively stable ("A" rating), the holdings of another 41% fluctuated moderately ("B" rating), and the holdings of 18% underwent relatively large fluctuations ("C" rating).

TABLE 13
DISTRIBUTION OF RATINGS FOR LARGE BANKS IN SAMPLE*

SIZE		FLUCTUATION	
<u>Rating</u>	<u>Number of Banks</u>	<u>Rating</u>	<u>Number of Banks</u>
1 -----	4	A -----	13
2 -----	9	B -----	12
3 -----	13	C -----	5
4 -----	2	D -----	0
5 -----	2		

SIZE AND FLUCTUATION

<u>Rating</u>	<u>Number of Banks</u>	<u>Rating</u>	<u>Number of Banks</u>
1A -----	1	4A -----	1
1B -----	2	4B -----	1
1C -----	1	4C -----	0
1D -----	0	4D -----	0
2A -----	6	5A -----	2
2B -----	3	5B -----	0
2C -----	0	5C -----	0
2D -----	0	5D -----	0
3A -----	3		
3B -----	6		
3C -----	4		
3D -----	0		

Source: Derived from Table 10.

*See Table 10.

The distribution of ratings found in Table 13 is presented in Table 14 for the medium-sized banks in the sample. The distribution of ratings for medium-sized banks is very similar to the distribution of ratings for large banks, with the exception that there is slightly more variation in the size and degree of fluctuation of the secondary reserves of the individual banks. In this table, rating "3" is again the largest as to the number of banks included, accounting for 40% of the medium-sized banks in the sample. Rating "2" is the next largest category, accounting for 25% of the medium-sized banks in the sample. These two ratings combined thus account for 65% of the total. Rating "1" accounts for 15% of the total, and rating "4" and "5" account for the remaining 20%.

As for the degree of fluctuation, the liquid asset holdings of 40% of the medium-sized banks were relatively stable over the two-year period, the holdings of another 40% of the banks underwent moderate fluctuations, and the holdings of the remaining 20% of the banks underwent relatively large fluctuations. Combining the ratings for size and fluctuation yields results similar to those found for large banks. Again there is no evidence of any industry standard in these data.

TABLE 14

DISTRIBUTION OF RATINGS FOR MEDIUM-SIZED BANKS IN SAMPLE*

SIZE		FLUCTUATION	
<u>Rating</u>	<u>Number of Banks</u>	<u>Rating</u>	<u>Number of Banks</u>
1 -----	6	A -----	16
2 -----	10	B -----	16
3 -----	16	C -----	7
4 -----	5	D -----	1
5 -----	3		

SIZE AND FLUCTUATION

<u>Rating</u>	<u>Number of Banks</u>	<u>Rating</u>	<u>Number of Banks</u>
1A -----	3	4A -----	2
1B -----	1	4B -----	2
1C -----	2	4C -----	1
1D -----	0	4D -----	0
2A -----	4	5A -----	0
2B -----	4	5B -----	2
2C -----	1	5C -----	1
2D -----	1	5D -----	0
3A -----	7		
3B -----	7		
3C -----	2		
3D -----	0		

Source: Derived from Table 11.

*See Table 11.

TABLE 15
DISTRIBUTION OF RATINGS FOR SMALL BANKS IN SAMPLE*

SIZE		FLUCTUATION	
<u>Rating</u>	<u>Number of Banks</u>	<u>Rating</u>	<u>Number of Banks</u>
1 -----	1	A -----	18
2 -----	7	B -----	16
3 -----	12	C -----	8
4 -----	12	D -----	3
5 -----	13		

SIZE AND FLUCTUATION			
<u>Rating</u>	<u>Number of Banks</u>	<u>Rating</u>	<u>Number of Banks</u>
1A -----	0	4A -----	5
1B -----	1	4B -----	5
1C -----	0	3C -----	1
1D -----	0	3D -----	1
2A -----	3	4A -----	5
2B -----	1	4B -----	5
2C -----	1	4C -----	3
2D -----	2	4D -----	0
3A -----	5		
3B -----	4		
3C -----	3		
3D -----	0		

Source: Derived from Table 12.

*See Table 12.

The distribution of ratings for small banks in the sample is presented in Table 15. A quick examination of this table will show that the ratings for the degree of fluctuation of the secondary reserve holdings of small banks follow the same pattern as that found for large banks and medium-sized banks. However, the ratings for the size of secondary reserve holdings are different. About 29% of the small banks are rated "5," about 27% are rated "4," about 27% are rated "3," and about 16% are rated "2." Only one small bank is rated "1."

Thus, about 83% of the small banks in the sample are distributed fairly evenly among the top three size categories. This tends to strengthen the contention that banks determine the size of their secondary reserves according to their needs. A small bank in many cases means a new bank. It takes time to develop an efficient loan program and to build up steady customer relationships. Small banks have small capital accounts, and may be hard pressed to make industrial loans to even very small businesses. The officers of a small bank are usually called on to perform a number of different tasks, as there may not be any formal credit department, or loan department, or investment department. Thus, we would expect many small banks to maintain a larger percentage of their assets in liquid form than would be true for larger banks.

The distribution of ratings for all of the banks in the sample is presented in Table 16. This table shows the same trends as the previous three tables. A majority of the banks in the sample -- 58% -- are rated either "2" or "3" as to the size of secondary reserves held. About 59% of the banks had secondary reserves that fluctuated at least to a moderate extent over the two-year period. When all of the banks are rated according to size and fluctuation of secondary reserves combined, it can be seen that 46% of the sample banks are rated either "2A," "2B," "3A," or "3B." From all of this we can say that there is some degree of similarity in the liquid asset holdings of about half of the banks in the sample as to size and degree of fluctuation. We can also say, however, that the degree of similarity is not great, as the two size ratings ("2" and "3") encompass 20% of the banks' total assets, and the two fluctuation ratings ("A" and "B") encompass a possible change in liquid asset holdings of 10% of total assets, either up or down (or some combination of the two).

This author would interpret these data to mean that there are similar external factors acting on many of the banks which tend to result in somewhat similar holdings and fluctuations of secondary reserves.

TABLE 16
DISTRIBUTION OF RATINGS FOR ALL BANKS IN SAMPLE*

SIZE		FLUCTUATION	
<u>Rating</u>	<u>Number of Banks</u>	<u>Rating</u>	<u>Number of Banks</u>
1 -----	11	A -----	47
2 -----	26	B -----	44
3 -----	41	C -----	20
4 -----	19	D -----	4
5 -----	18		

SIZE AND FLUCTUATION

<u>Rating</u>	<u>Number of Banks</u>	<u>Rating</u>	<u>Number of Banks</u>
1A -----	4	4A -----	8
1B -----	4	4B -----	8
1C -----	3	4C -----	2
1D -----	0	4D -----	1
2A -----	13	5A -----	7
2B -----	8	5B -----	7
2C -----	2	5C -----	4
2D -----	3	5D -----	0
3A -----	15		
3B -----	17		
3C -----	9		
3D -----	0		

Source: Derived from Tables 13, 14, and 15.

*See Tables 10, 11, and 12.

However, there is by no stretch of the imagination enough similarity to imply that there is any kind of standard to which individual banks attempt to adhere. There is nothing in the data to indicate that individual banks do not determine their secondary reserve holdings according to their individual needs and the pressures of their environment. It appears that some banks utilize their resources much more efficiently than others, as 32% of the banks held secondary reserves amounting to more than 30% of total assets during the period under consideration.¹⁷ We cannot state this with certainty, however, for we do not know the individual circumstances that faced each bank. All we can say with certainty is that these data indicate that there is no industry standard determining the size of commercial bank secondary reserves, and that there is nothing in the data to indicate that commercial banks do not determine their liquid asset holdings according to their needs and the pressures of their environment.¹⁸

Notes

1. "Window-dressing" is the practice of adjusting asset holdings specifically for reporting purposes. For example, a bank might hold 70% of its assets in loans for eleven months of the year, reduce loans and buy U.S. Government securities in December, and show loan holdings of 50% on its annual statement. For a discussion of bank reporting practices see Prather, op. cit., 259-78.

2. For a discussion of bank examination procedures see Baughn and Walker, op. cit., 1052-65.

3. Basically, the information requested was the liquid asset holdings (as a percentage of total assets) of a number of commercial banks grouped according to size.

4. Specifically, the information was requested of Mr. Edward J. Lee, Deputy Banking Commissioner of the State of Florida.

5. State Form 64.

6. As explained by Mr. Edward J. Lee (see Note 4).

7. Board of Governors of the Federal Reserve System, "Regulation D: Reserves of Member Banks," Code of Federal Regulations, Title 12, Chapter II, Part 204.

8. Ibid.

9. See page 50 in Chapter I.

10. For a discussion of the interaction of the various banking authorities, see Baughn and Walker, op. cit., 1036-51.

11. Federal Deposit Insurance Corporation, Annual Report (1967), 161.

12. See Comptroller of the State of Florida, Annual Report: Banking Department (1968), Part II.

13. See Federal Deposit Insurance Corporation, Annual Report (1967), 169, 183. The author is aware that deposits are not the same thing as assets, but they are not far enough apart in size to make any significant differences, as deposits account for about 89% of the total liabilities and capital accounts of commercial banks.

14. Ibid.

15. See Board of Governors of the Federal Reserve System, Annual Report (1967), 3-11; and (1968), 3-10.

16. Ibid.

17. See Table 16.

18. The reader is advised to keep in mind the limitations of this sample, as discussed in the first part of this chapter.

CHAPTER IV
FINAL CONCLUSIONS

Final Conclusions

In the first chapter of this thesis we were concerned with the theoretical justification for the maintenance of a secondary reserve by individual commercial banks. It was found that a secondary reserve should consist of short-term, readily marketable, high quality assets. For the purposes of this thesis, a secondary reserve includes all U.S. Government securities held, regardless of maturity. We found that a secondary reserve theoretically serves three main functions: (1) to provide a bank with a source of funds with which to meet deposit drains; (2) to provide a bank with a source of funds with which to meet increased loan demand; (3) to prevent capital impairment through the forced sale of assets at below-cost prices and provide for a satisfactory level of risk exposure. Protection against depression is not a function of a secondary reserve as it is impossible for commercial banks to maintain sufficient liquidity to meet excessive withdrawals brought on by a liquidity crisis.

In Chapter II we examined the banking industry's aggregate holdings of liquid assets (as represented by

U.S. Government securities) since 1953. We found that some significant changes occurred in the banking industry during the 1960's. The banking system greatly decreased its holdings of liquid assets, began to issue time certificates of deposit in large numbers, and increased its capital through the issue of subordinated debentures. A theory espousing the effective management of liabilities came into vogue. According to this theory, banks did not need as much liquidity as they needed in the past because banks now had some control over their liabilities.

Nevertheless, the decline in the banking system's holdings of liquid assets in the 1960's raised the question as to whether or not commercial banks actually determine their secondary reserve holdings according to their needs. We found that the management of liabilities cannot be relied on as a source of liquidity in times of need. The decrease in the system's liquidity, then, might indicate that commercial banks did not need so much liquidity in the first place. This would indicate that individual banks adhere to some standard in determining the level of their secondary reserves.

In order to test this proposition, we examined the liquid asset holdings of 115 state banks over a two-year period. We found that the liquid asset holdings of the

sample banks were quite diverse, both as to size and degree of fluctuation. The effects of monetary policy on the sample banks' holdings of liquid assets are not clear. This is a result of the fact that there are lags inherent in monetary policy, and the fact that the direction of monetary policy was changed several times during 1967 and 1968. Some immediate effects of monetary policy are evident in the sample, but it is clear that many other influences were affecting the secondary reserve holdings of the sample banks.

The wide diversity in the size of the secondary reserves of the different banks indicates that some banks apparently utilize their resources more efficiently than others. We found that there is some degree of similarity in the characteristics of the liquid asset holdings of about half of the banks in the sample. This similarity, however, only indicates that many banks operate under similar conditions. There is nothing in the sample data to indicate that there is any kind of liquidity standard in the American banking industry.

Finally, then, all of the foregoing analysis shows that there is no liquidity standard in the American banking industry, and there is nothing to indicate that individual commercial banks do not determine their

own liquidity needs according to the pressures of their environment. The decline in the liquid asset holdings of commercial banks in the 1960's can be attributed to the increased sophistication of bank managers and the banking authorities, and to the advent of liabilities management. Although the management of liabilities is not a true source of liquidity, it is a source of funds, which may significantly decrease an individual bank's need for liquidity.

It must be mentioned once again, however, that this conclusion is tempered by the limitations of the sample. There are no very large banks in the sample, and all 115 banks are state non-member banks. Also, the time span of the sample covers only two years. Individual readers will no doubt differ in their opinions as to just how limiting these factors are. This author feels that these limitations are not severe enough to negate the findings of this paper.

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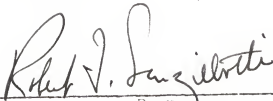
BIOGRAPHICAL SKETCH

Jerry Wayne Lee was born March 13, 1944, in Brownwood, Texas. His family moved to Jacksonville, Florida, in 1948. In April, 1966, he received the degree of Bachelor of Science in Business Administration with a major in Finance from the University of Florida. In August, 1968, he received the degree of Master of Arts in Business Administration from the University of Florida.

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This dissertation was prepared under the direction of the chairman of the candidate's supervisory committee and has been approved by all members of that committee. It was submitted to the Dean of the College of Business Administration and to the Graduate Council, and was approved as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

December, 1969



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